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

August 10, 2020

SUBJECT: NASA JPL, 2Q2020, Data Validation

Dear Mr. Conner,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on July 17, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #48646:

SDG #	Fraction
2016743, 2016927 2017061, 2017168	Volatiles, Semivolatiles, 1,4-Dioxane, Metals, Wet Chemistry

The data validation was performed under Level III 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
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

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

Sincerely,

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

HC

Attachment 1

90/10 (client select) EDD

LDC #48646 (Tidewater- Powell, OH / NASA JPL, 2Q2020)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (524.2)		SVOA (8270C)		1,4-Dioxane (8270C)		Metals (200.7 /200.8)		Alk. (2320B)		Cl,SO_4 NO_3-N (300.0)		NO_2-N (353.2)		Cr(VI) (218.6)		CLO_4 (314.0)		TDS (160.1)		pH (150.1)													
Matrix:	Water/Soil			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	W	S
A	2016743	07/17/20	08/07/20	7	0	1	0	1	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0										
B	2016927	07/17/20	08/07/20	7	0	1	0	-	-	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0										
C	2017061	07/17/20	08/07/20	11	0	1	0	-	-	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0										
D	2017168	07/17/20	08/07/20	7	0	1	0	-	-	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0										
Total	T/PG			32	0	4	0	1	0	28	0	28	0	28	0	28	0	28	0	28	0	28	0	28	0	28	0	0	0	0	0	0	0	0	0	0	261

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016743

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-1-060920	2016743-01	Water	06/09/20
MW-4-5	2016743-02	Water	06/09/20
MW-4-4	2016743-03	Water	06/09/20
MW-4-3	2016743-04	Water	06/09/20
MW-4-2	2016743-05	Water	06/09/20
MW-4-1	2016743-06	Water	06/09/20
EB-1-060920	2016743-07	Water	06/09/20
MW-4-4MS	2016743-03MS	Water	06/09/20
MW-4-4MSD	2016743-03MSD	Water	06/09/20

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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/10/20	Diethyl ether	74.0	All samples in SDG 2016743	UJ (all non-detects)	P

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
06/11/20 (11JUN02)	Bromomethane Naphthalene	34.8 31.1	All samples in SDG 2016743	UJ (all non-detects) UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
06/11/20 (11JUN03)	Methyl iodide	44.0	All samples in SDG 2016743	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-1-060920 was identified as a trip blank. No contaminants were found.

Sample EB-1-060920 was identified as an equipment 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

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 ICV %D and continuing calibration %D, data were qualified as estimated in seven samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2016743

Sample	Compound	Flag	A or P	Reason
TB-1-060920 MW-4-5 MW-4-4 MW-4-3 MW-4-2 MW-4-1 EB-1-060920	Diethyl ether	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-1-060920 MW-4-5 MW-4-4 MW-4-3 MW-4-2 MW-4-1 EB-1-060920	Bromomethane Naphthalene Methyl iodide	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2016743

No Sample Data Qualified in this SDG

LDC #: 48646A1a

SDG #: 2016743

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/1/20

Page: 1 of 1

Reviewer:

2nd Reviewer:

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/M	RSD≤ 20%, r² KCV≤30%
IV.	Continuing calibration	M	CCV≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1 EB=7
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	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-1-060920	2016743-01	Water	06/09/20
2	MW-4-5	2016743-02	Water	06/09/20
3	MW-4-4	2016743-03	Water	06/09/20
4	MW-4-3	2016743-04	Water	06/09/20
5	MW-4-2	2016743-05	Water	06/09/20
6	MW-4-1	2016743-06	Water	06/09/20
7	EB-1-060920	2016743-07	Water	06/09/20
8	MW-4-4MS	2016743-03MS	Water	06/09/20
9	MW-4-4MSD	2016743-03MSD	Water	06/09/20
10				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	ÀA. 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.

LDC #: ~~18466A~~1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Page: 1 of 1
Reviewer: a
2nd Reviewer: _____

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

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(6) N ~~N/A~~ Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N ~~N/A~~ Were all %D within the validation criteria of ~~≤20 %D?~~ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Associated Samples	Qualifications
	6/10/20	10JUN14	Diethyl ether	74.0	All (NO)	√ UJ/P

ICV wpd

LDC #: ~~18646A~~19

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: 1
2nd Reviewer:

METHOD: GC/MS VOA (EPA ~~SW 846~~ Method ~~8260B~~) 524.2

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ~~≤20 %D and ≥0.05 RRF ?~~ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ~~≤20.0%~~ 30)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/11/20	11UNO2	B	~~24.8~~		All (ND)	J/UJ/P
			MMM	31.1			
	6/11/20	11UNO3	Methyl iodide	44.0		↓	✓

CONCAL 1SB

LDC Report# 48646A2a

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Semivolatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016743

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-4-2	2016743-05	Water	06/09/20

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:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270C

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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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, percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs) with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
06/15/20	Benzidine	56.06873	All samples in SDG 2016743	UJ (all non-detects)	A
	Endosulfan I	18.33888		UJ (all non-detects)	
	2-Naphthylamine	49.74228		UJ (all non-detects)	
	cis-Chlordane	32.46043		UJ (all non-detects)	
	Famphur	40.31817		UJ (all non-detects)	
	1-Naphthylamine	37.88838		UJ (all non-detects)	

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 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
06/16/20 (16JUN003)	Benzidine	25.2	All samples in SDG 2016743	Benzidine	UJ (all non-detects)	A
	2,2'-Oxybis(1-chloropropane)	27.2		2,2'-Oxybis(1-chloropropane)	UJ (all non-detects)	
	3,3'-Dichlorobenzidine	25.9		3,3'-Dichlorobenzidine	UJ (all non-detects)	
	Heptachlor	20.8		Heptachlor	UJ (all non-detects)	
	2-Naphthylamine	33.4		2-Naphthylamine	UJ (all non-detects)	

Date	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
06/16/20 (16JUN004)	Aramite	20.9	All samples in SDG 2016743	Aramite	UJ (all non-detects)	A
	p-(Dimethylamino)azobenzene	23.9		p-(Dimethylamino)azobenzene	UJ (all non-detects)	
	Disulfoton	22.6		Disulfoton	UJ (all non-detects)	
	Ethyl methacrylate	31.2		Ethyl methacrylate	UJ (all non-detects)	
	Ethyl Parathion	23.9		Ethyl Parathion	UJ (all non-detects)	
	Methyl parathion	26.3		Methyl parathion	UJ (all non-detects)	
	1,4-Naphthoquinone	33.7		1,4-Naphthoquinone	UJ (all non-detects)	
	Hexachlorophene	36.1		Hexachlorophene	UJ (all non-detects)	
	PCB-1260	22.7		PCB-1260	UJ (all non-detects)	
				PCB-1016	UJ (all non-detects)	
				PCB-1221	UJ (all non-detects)	
				PCB-1232	UJ (all non-detects)	
				PCB-1242	UJ (all non-detects)	
				PCB-1248	UJ (all non-detects)	
				PCB-1254	UJ (all non-detects)	
				PCB-1262	UJ (all non-detects)	
				PCB-1268	UJ (all non-detects)	
				Total PCBs	UJ (all non-detects)	

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Affected Compound	Flag	A or P
MW-4-2	Perylene-d12	399327 (73853-295412)	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene 3-Methylcholanthrene	NA	-

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 initial calibration %RSD, ICV %D, data were qualified as estimated in one sample.

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

NASA JPL, 2Q2020
Semivolatiles - Data Qualification Summary - SDG 2016743

Sample	Compound	Flag	A or P	Reason
MW-4-2	Benzidine	UJ (all non-detects)	A	Initial calibration (%RSD)
	Endosulfan I	UJ (all non-detects)		
	2-Naphthylamine	UJ (all non-detects)		
	cis-Chlordane	UJ (all non-detects)		
	Famphur	UJ (all non-detects)		
	1-Naphthylamine	UJ (all non-detects)		
MW-4-2	Benzidine	UJ (all non-detects)	A	Initial calibration verification (%D)
	2,2'-Oxybis(1-chloropropane)	UJ (all non-detects)		
	3,3'-Dichlorobenzidine	UJ (all non-detects)		
	Heptachlor	UJ (all non-detects)		
	2-Naphthylamine	UJ (all non-detects)		
	Aramite	UJ (all non-detects)		
	p-(Dimethylamino)azobenzene	UJ (all non-detects)		
	Disulfoton	UJ (all non-detects)		
	Ethyl methacrylate	UJ (all non-detects)		
	Ethyl Parathion	UJ (all non-detects)		
	Methyl parathion	UJ (all non-detects)		
	1,4-Naphthoquinone	UJ (all non-detects)		
	Hexachlorophene	UJ (all non-detects)		
	PCB-1260	UJ (all non-detects)		
	PCB-1016	UJ (all non-detects)		
	PCB-1221	UJ (all non-detects)		
	PCB-1232	UJ (all non-detects)		
	PCB-1242	UJ (all non-detects)		
	PCB-1248	UJ (all non-detects)		
	PCB-1254	UJ (all non-detects)		
	PCB-1262	UJ (all non-detects)		
	PCB-1268	UJ (all non-detects)		
	Total PCBs	UJ (all non-detects)		

NASA JPL, 2Q2020
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 2016743

No Sample Data Qualified in this SDG

LDC #: 48646A2a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/12/20
SDG #: 2016743 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: V
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

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~~ SW N	~~RSD ≤ 30%~~ 15%. r^2 ICV ≤ 20%
IV.	Continuing calibration	~~A~~ SW	CCV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	SW	
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	MW-4-2	2016743-05	Water	06/09/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	CC. Dimethylphthalate	EEE. Bis(2-ethylhexyl)phthalate	GGGG. C30-Hopane	I1. Methyl methanesulfonate
B. Bis (2-chloroethyl) ether	DD. Acenaphthylene	FFF. Di-n-octylphthalate	HHHH. 1-Methylphenanthrene	J1. Ethyl methanesulfonate
C. 2-Chlorophenol	EE. 2,6-Dinitrotoluene	GGG. Benzo(b)fluoranthene	IIII. 1,4-Dioxane	K1. o,o',o''-Triethylphosphorothioate
D. 1,3-Dichlorobenzene	FF. 3-Nitroaniline	HHH. Benzo(k)fluoranthene	JJJJ. Acetophenone	L1. n-Phenylene diamine
E. 1,4-Dichlorobenzene	GG. Acenaphthene	III. Benzo(a)pyrene	KKKK. Atrazine	M1. 1,4-Naphthoquinone
F. 1,2-Dichlorobenzene	HH. 2,4-Dinitrophenol	JJJ. Indeno(1,2,3-cd)pyrene	LLLL. Benzaldehyde	N1. N-Nitro-o-toluidine
G. 2-Methylphenol	II. 4-Nitrophenol	KKK. Dibenz(a,h)anthracene	MMMM. Caprolactam	O1. 1,3,5-Trinitrobenzene
H. 2,2'-Oxybis(1-chloropropane)	JJ. Dibenzofuran	LLL. Benzo(g,h,i)perylene	NNNN. 2,6-Dichlorophenol	P1. Pentachlorobenzene
I. 4-Methylphenol	KK. 2,4-Dinitrotoluene	MMM. Bis(2-Chloroisopropyl)ether	OOOO. 1,2-Diphenylhydrazine	Q1. 4-Aminobiphenyl
J. N-Nitroso-di-n-propylamine	LL. Diethylphthalate	NNN. Aniline	PPPP. 3-Methylphenol	R1. 2-Naphthylamine
K. Hexachloroethane	MM. 4-Chlorophenyl-phenyl ether	OOO. N-Nitrosodimethylamine	QQQQ. 3&4-Methylphenol	S1. Triphenylene
L. Nitrobenzene	NN. Fluorene	PPP. Benzoic Acid	RRRR. 4-Dimethyldibenzothiophene (4MDT)	T1. Octachlorostyrene
M. Isophorone	OO. 4-Nitroaniline	QQQ. Benzyl alcohol	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	U1. Famphur
N. 2-Nitrophenol	PP. 4,6-Dinitro-2-methylphenol	RRR. Pyridine	TTTT. 1-Methyldibenzothiophene (1MDT)	V1. 1,4-phenylenediamine
O. 2,4-Dimethylphenol	QQ. N-Nitrosodiphenylamine	SSS. Benzidine	UUUU.. 2,3,4,6-Tetrachlorophenol	W1. Methapyrilene
P. Bis(2-chloroethoxy)methane	RR. 4-Bromophenyl-phenylether	TTT. 1-Methylnaphthalene	VVVV. 1,2,4,5-Tetrachlorobenzene	X1. Pentachloroethane
Q. 2,4-Dichlorophenol	SS. Hexachlorobenzene	UUU.Benzo(b)thiophene	WWWW.. 2-Picoline	Y1. 3,3'-Dimethylbenzidine
R. 1,2,4-Trichlorobenzene	TT. Pentachlorophenol	VVV.Benzonaphthothiophene	XXXX. 3-Methylcholanthrene	Z1. o-Toluidine
S. Naphthalene	UU. Phenanthrene	WWW.Benzo(e)pyrene	YYYY. a,a-Dimethylphenethylamine	A2. 1-Naphthylamine
T. 4-Chloroaniline	VV. Anthracene	XXX. 2,6-Dimethylnaphthalene	ZZZZ. Hexachloropropene	B2. 4-Aminobiphenyl
U. Hexachlorobutadiene	WW. Carbazole	YYY. 2,3,5-Trimethylnaphthalene	A1. N-Nitrosodiethylamine	C2. 4-Nitroquinoline-1-oxide
V. 4-Chloro-3-methylphenol	XX. Di-n-butylphthalate	ZZZ. Perylene	B1. N-Nitrosodi-n-butylamine	D2. Hexachloropene
W. 2-Methylnaphthalene	YY. Fluoranthene	AAAA. Dibenzothiophene	C1. N-Nitrosomethylethylamine	E2. Bis (2-chloro-1-methylethyl) ether
X. Hexachlorocyclopentadiene	ZZ. Pyrene	BBBB. Benzo(a)fluoranthene	D1. N-Nitrosomorpholine	F2. Bifenthrin
Y. 2,4,6-Trichlorophenol	AAA. Butylbenzylphthalate	CCCC. Benzo(b)fluorene	E1. N-Nitrosopyrrolidine	G2. Cyfluthrin
Z. 2,4,5-Trichlorophenol	BBB. 3,3'-Dichlorobenzidine	DDDD. cis/trans-Decalin	F1. Phenacetin	H2. Cypermethrin
AA. 2-Chloronaphthalene	CCC. Benzo(a)anthracene	EEEE. Biphenyl	G1. 2-Acetylaminofluorene	I2. Permethrin (cis/trans)
BB. 2-Nitroaniline	DDD. Chrysene	FFFF. Retene	H1. Pronamide	J2. 5-Nitro-o-toluidine

LDC #: 48646A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: 9
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory conduct an acceptable 5 point calibration prior to sample analysis?

Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?

Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____

Y N N/A Did the initial calibration meet the acceptance criteria?

Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0/15%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/15/20	ICAL	SSS	56.06873		All (ND)	J/UJ/A
			Endosulfan I	18.33888			
			R1	49.74228			
			cis-Chlordane	32.46043			
			U1	40.31817			
			A2	37.88838			V

LDC #: 48646A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?
Y N N/A Were all %D within the validation criteria of ≤30 %D ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/16/20	16JUN003	SSS	25.2	All (ND)	J/UJ/A
			H	27.2		
			BBB	25.9		
			Heptachlor	20.8		
			R1	33.4		
	6/16/20	16JUN004	Aramite	20.9		
			p-(Dimethylamino)azobenzene	23.9		
			Disilfoton	22.6		
			Ethyl methacrylate	31.2		
			Ethyl Parathion	23.9		
			Methyl parathion	26.3		
			M1	33.7		
			Hexachlorophene	36.1		
			PCB-1260	27.7		
						(qual: PCB-1016, 1221,1232,1242,
						1248,1254,1260,1262,1268, and
						Total PCBS)

LDC #: 48646A21

VALIDATION FINDINGS WORKSHEET
Internal Standards

Reviewer: Q
2nd Reviewer: ____

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all internal standard area counts within -50 to +100 of the associated calibration standard?

(Y) N N/A Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

#	Date	Sample ID	Internal Standard	Area (Limits)	RT (Limits)	Qualifications
		1 (ND)	PRY	399327 (73853-295412)		J dets/P

(DCB) = 1,4-Dichlorobenzene-d4
(NPT) = Naphthalene-d8
(ANT) = Acenaphthene-d10
(PHN) = Phenanthrene-d10
(CRY) = Chrysene-d12
(PRY) = Perylene-d12

Semi-Volatile Internal Standards

1,4-Dichlorobenzene-d4 (DCB)	Naphthalene-d8 (NPT)	Acenaphthene-d10 (ANT)
Phenol	Nitrobenzene	2,4,6-Trichlorophenol
Bis(2-chloroethyl)ether	Isophorone	2,4,5-Trichlorophenol
2-Chlorophenol	2-Nitrophenol	2-Chloronaphthalene
1,3-Dichlorobenzene	2,4-Dimethylphenol	2-Nitroaniline
1,4-Dichlorobenzene	Bis(2-chloroethoxy)methane	Dimethylphthalate
1,2-Dichlorobenzene	2,4-Dichlorophenol	Acenaphthylene
2-Methylphenol	Naphthalene	2,6-Dinitrotoluene
Bis(2-chloroisopropyl)ether	4-Chloroaniline	3-Nitroaniline
3+4-Methylphenol	Hexachlorobutadiene	Acenaphthene
N-Nitroso-d-n-propylamine	4-Chloro-3-methylphenol	4-Nitrophenol
Hexachoroethane	2-Methynaphthalene	Dibenzofuran
N-Nitrosodimethylamine	1,2,4-Trichlorobenzene	2,4-Dinitrotoluene
	Benzoic acid	Diethyphthalate
		4-Chlorophenylphenyl ether
		Fluorene
		4-Nitroaniline
		Hexachlorocyclopentadiene
		2,4-Dinitrophenol

Phenanthrene-d10 (PHN)	Chrysene-d12 (CRY)	Perylene-d12 (PRY)
N-Nitrosodiphenylamine	Pyrene	Benzo(b)fluoranthene
4-Bromophenyl-phenyl ether	Butylbenzylphthalate	Benzo(k)fluoranthene
Hexachlorobenzene	3,3-Dichlorobenzidine	Benzo(a)pyrene
Pentachlorophenol	Benzo(a)anthracene	Indeno(1,2,3-cd)pyrene
Phenanthrene	Chrysene	Dibenzo(a,h)anthracene
Anthracene	Bis(2-ethylhexyl)phthalate	Benzo(g,h,i)perylene
Di-n-butylphthalate	Di-n-octylphthalate	3-Methylcholanthrene
Fluoranthene		
4,6-Dinitro-2-methylphenol		

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: 1,4-Dioxane

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016743

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-4-1	2016743-06	Water	06/09/20

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:

1,4-Dioxane by Environmental Protection Agency (EPA) SW 846 Method 8270C

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 not 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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

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.

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

NASA JPL, 2Q2020
1,4-Dioxane - Data Qualification Summary - SDG 2016743

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 2016743

No Sample Data Qualified in this SDG

LDC #: 48646A2c

SDG #: 2016743

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 7/31/20

Page: 1 of 1

Reviewer: 1

2nd Reviewer:

METHOD: GC/MS 1,4-Dioxane (EPA SW846 Method 8270C)

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 ≤ 15% . ICV ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards		
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	MW-4-1	2016743-06	Water	06/09/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Metals

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016743

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-4-5	2016743-02	Water	06/09/20
MW-4-4	2016743-03	Water	06/09/20
MW-4-3	2016743-04	Water	06/09/20
MW-4-2	2016743-05	Water	06/09/20
MW-4-1	2016743-06	Water	06/09/20
EB-1-060920	2016743-07	Water	06/09/20
MW-4-5MS	2016743-02MS	Water	06/09/20
MW-4-5MSD	2016743-02MSD	Water	06/09/20
MW-4-5DUP	2016743-02DUP	Water	06/09/20

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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. Laboratory Blanks

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

VI. Field Blanks

Sample EB-1-060920 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration
EB-1-060920	06/09/20	Sodium	0.076 mg/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 methods. 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 methods. No results were rejected in this SDG.

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2016743

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2016743

No Sample Data Qualified in this SDG

LDC #: 48646A4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/3/2020
SDG #: 2016743 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: ODM
2nd Reviewer:

METHOD: Metals(EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	A	
VI.	Field Blanks	SW ~~A~~	EB=6
VII.	Matrix Spike/Matrix Spike Duplicates	A	
VIII.	Duplicate sample analysis	A	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	~~A~~ N	NOT Reviewed
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-4-5	2016743-02	Water	06/09/20
2	MW-4-4	2016743-03	Water	06/09/20
3	MW-4-3	2016743-04	Water	06/09/20
4	MW-4-2	2016743-05	Water	06/09/20
5	MW-4-1	2016743-06	Water	06/09/20
6	EB-1-060920	2016743-07	Water	06/09/20
7	MW-4-5MS	2016743-02MS	Water	06/09/20
8	MW-4-5MSD	2016743-02MSD	Water	06/09/20
9	MW-4-5DUP	2016743-02DUP	Water	06/09/20
10				
11				
12				
13				

Notes:

LDC #: 49646A4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-6	w	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
007-9	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Analysis Method

ICP	W	Al, Sb, As, Ba, Be, B, Cd, [✓ Ca], Cr, Co, Cu, [✓ Fe], Pb, Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
ICP-MS	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
GFAA		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Comments: Mercury by CVAA if performed

LDC #: 48646A4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** ug/L
Sampling date: 6/9/2020
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: ~~15~~ x Flag

Analyte	Blank ID	Blank ID	Sample Identification											
	6		Action Limit	NO QUAL										
Na	0.076		~~0.18~~											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016743

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-4-5	2016743-02	Water	06/09/20
MW-4-4	2016743-03	Water	06/09/20
MW-4-3	2016743-04	Water	06/09/20
MW-4-2	2016743-05	Water	06/09/20
MW-4-1	2016743-06	Water	06/09/20
EB-1-060920	2016743-07	Water	06/09/20
MW-4-5MS	2016743-02MS	Water	06/09/20
MW-4-5MSD	2016743-02MSD	Water	06/09/20
MW-4-5DUP	2016743-02DUP	Water	06/09/20
MW-4-2MS	2016743-05MS	Water	06/09/20
MW-4-2MSD	2016743-05MSD	Water	06/09/20
MW-4-2DUP	2016743-05DUP	Water	06/09/20
EB-1-060920DUP	2016743-07DUP	Water	06/09/20

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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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
All samples in SDG 2016743	pH	6 days	2 days	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.

V. Field Blanks

Sample EB-1-060920 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-1-060920	pH Total dissolved solids Chloride	4.59 mg/L 4.7 mg/L 0.24 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 times, data were qualified as estimated in six samples.

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

NASA JPL, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2016743

Sample	Analyte	Flag	A or P	Reason
MW-4-5 MW-4-4 MW-4-3 MW-4-2 MW-4-1 EB-1-060920	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2016743

No Sample Data Qualified in this SDG

LDC #: 48646A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/4/2020
SDG #: 2016743 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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	A	
V	Field blanks	SW	EB=6
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	A	
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	2016743-02	Water	06/09/20
2	MW-4-4	2016743-03	Water	06/09/20
3	MW-4-3	2016743-04	Water	06/09/20
4	MW-4-2	2016743-05	Water	06/09/20
5	MW-4-1	2016743-06	Water	06/09/20
6	EB-1-060920	2016743-07	Water	06/09/20
7	MW-4-5MS	2016743-02MS	Water	06/09/20
8	MW-4-5MSD	2016743-02MSD	Water	06/09/20
9	MW-4-5DUP	2016743-02DUP	Water	06/09/20
10	MW-4-2MS	2016743-05MS	Water	06/09/20
11	MW-4-2MSD	2016743-05MSD	Water	06/09/20
12	MW-4-2DUP	2016743-05DUP	Water	06/09/20
13	EB-1-060920DUP	2016743-07DUP	Water	06/09/20
14				
15				

Notes:

LDC #: 49646A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1-6	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 7-9	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 10-12	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 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
	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:

LDC #: 48646A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: DTM
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	150.1						
Parameters:	pH						
Technical holding time:	48hrs						
Sample ID	**Sampling date**	**Analysis date**	**Total Time**	**Qualifier**	**Analysis date**	**Total Time**	**Qualifier**
ALL	6/9/2020	6/15/2020	6days	J/R/P (det)			

LDC #: 48646A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:**
Sampling date: 6/11/2020 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB/SB Associated Samples: X flag

Analyte	Blank ID	Action Limit	Sample Identification							
	6		No Qualifiers							
pH	4.59									
TDS	4.7									
Chloride	0.24									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

NASA JPL, 2Q2020 - LDC# 48646A

SDG: 2016743

Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-1-060920	2016743-07	pH	6/15/2020	4.59	Y	y	v	J	0.05	0.05	pH Units
MW-4-1	2016743-06	pH	6/15/2020	7.4	Y	y	v	J	0.05	0.05	pH Units
MW-4-2	2016743-05	pH	6/15/2020	7.48	Y	y	v	J	0.05	0.05	pH Units
MW-4-3	2016743-04	pH	6/15/2020	7.83	Y	y	v	J	0.05	0.05	pH Units
MW-4-4	2016743-03	pH	6/15/2020	7.79	Y	y	v	J	0.05	0.05	pH Units
MW-4-5	2016743-02	pH	6/15/2020	7.87	Y	y	v	J	0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-1-060920	2016743-07	Total Dissolved Solids @ 180 C	6/12/2020	4.7	Y	y	v j		6.7	3.3	mg/L
MW-4-1	2016743-06	Total Dissolved Solids @ 180 C	6/12/2020	250	Y	y	v		20	10	mg/L
MW-4-2	2016743-05	Total Dissolved Solids @ 180 C	6/12/2020	610	Y	y	v		33	17	mg/L
MW-4-3	2016743-04	Total Dissolved Solids @ 180 C	6/12/2020	490	Y	y	v		33	17	mg/L
MW-4-4	2016743-03	Total Dissolved Solids @ 180 C	6/12/2020	410	Y	y	v		20	10	mg/L
MW-4-5	2016743-02	Total Dissolved Solids @ 180 C	6/12/2020	420	Y	y	v		20	10	mg/L

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-1-060920	2016743-07	Total Recoverable Sodium	6/15/2020	0.076	Y	y	v j		0.50	0.051	mg/L
EB-1-060920	2016743-07	Total Recoverable Magnesium	6/15/2020	0.05	Y	n	u		0.050	0.019	mg/L
EB-1-060920	2016743-07	Total Recoverable Potassium	6/15/2020	1	Y	n	u		1.0	0.10	mg/L
EB-1-060920	2016743-07	Total Recoverable Iron	6/15/2020	50	Y	n	u		50	30	ug/L
EB-1-060920	2016743-07	Total Recoverable Calcium	6/15/2020	0.1	Y	n	u		0.10	0.014	mg/L
MW-4-1	2016743-06	Total Recoverable Iron	6/15/2020	560	Y	y	v		50	30	ug/L
MW-4-1	2016743-06	Total Recoverable Sodium	6/15/2020	16	Y	y	v		0.50	0.051	mg/L

SDG: 2016743

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-1	2016743-06	Total Recoverable Magnesium	6/15/2020	14	Y	y	v		0.050	0.019	mg/L
MW-4-1	2016743-06	Total Recoverable Calcium	6/15/2020	46	Y	y	v		0.10	0.014	mg/L
MW-4-1	2016743-06	Total Recoverable Potassium	6/15/2020	2.4	Y	y	v		1.0	0.10	mg/L
MW-4-2	2016743-05	Total Recoverable Calcium	6/12/2020	110	Y	y	v		0.10	0.014	mg/L
MW-4-2	2016743-05	Total Recoverable Magnesium	6/12/2020	37	Y	y	v		0.050	0.019	mg/L
MW-4-2	2016743-05	Total Recoverable Sodium	6/12/2020	33	Y	y	v		0.50	0.051	mg/L
MW-4-2	2016743-05	Total Recoverable Potassium	6/12/2020	2.8	Y	y	v		1.0	0.10	mg/L
MW-4-2	2016743-05	Total Recoverable Iron	6/12/2020	590	Y	y	v		50	30	ug/L
MW-4-3	2016743-04	Total Recoverable Calcium	6/12/2020	88	Y	y	v		0.10	0.014	mg/L
MW-4-3	2016743-04	Total Recoverable Magnesium	6/12/2020	29	Y	y	v		0.050	0.019	mg/L
MW-4-3	2016743-04	Total Recoverable Sodium	6/12/2020	35	Y	y	v		0.50	0.051	mg/L
MW-4-3	2016743-04	Total Recoverable Potassium	6/12/2020	2.5	Y	y	v		1.0	0.10	mg/L
MW-4-3	2016743-04	Total Recoverable Iron	6/12/2020	3600	Y	y	v		50	30	ug/L
MW-4-4	2016743-03	Total Recoverable Calcium	6/12/2020	68	Y	y	v		0.10	0.014	mg/L
MW-4-4	2016743-03	Total Recoverable Iron	6/12/2020	1200	Y	y	v		50	30	ug/L
MW-4-4	2016743-03	Total Recoverable Potassium	6/12/2020	2.2	Y	y	v		1.0	0.10	mg/L
MW-4-4	2016743-03	Total Recoverable Magnesium	6/12/2020	23	Y	y	v		0.050	0.019	mg/L
MW-4-4	2016743-03	Total Recoverable Sodium	6/12/2020	39	Y	y	v		0.50	0.051	mg/L
MW-4-5	2016743-02	Total Recoverable Iron	6/12/2020	7000	Y	y	v		50	30	ug/L
MW-4-5	2016743-02	Total Recoverable Potassium	6/12/2020	2.1	Y	y	v		1.0	0.10	mg/L
MW-4-5	2016743-02	Total Recoverable Sodium	6/12/2020	36	Y	y	v		0.50	0.051	mg/L
MW-4-5	2016743-02	Total Recoverable Magnesium	6/12/2020	21	Y	y	v		0.050	0.019	mg/L
MW-4-5	2016743-02	Total Recoverable Calcium	6/12/2020	62	Y	y	v		0.10	0.014	mg/L

SDG: 2016743

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-1-060920	2016743-07	Total Recoverable Chromium	6/10/2020	3	Y	n	u		3.0	0.50	ug/L
EB-1-060920	2016743-07	Total Recoverable Lead	6/10/2020	1	Y	n	u		1.0	0.10	ug/L
EB-1-060920	2016743-07	Total Recoverable Arsenic	6/10/2020	2	Y	n	u		2.0	0.70	ug/L
MW-4-1	2016743-06	Total Recoverable Lead	6/10/2020	1	Y	n	u		1.0	0.10	ug/L
MW-4-1	2016743-06	Total Recoverable Chromium	6/10/2020	3	Y	n	u		3.0	0.50	ug/L
MW-4-1	2016743-06	Total Recoverable Arsenic	6/10/2020	0.88	Y	y	v j		2.0	0.70	ug/L
MW-4-2	2016743-05	Total Recoverable Lead	6/10/2020	1	Y	n	u		1.0	0.10	ug/L
MW-4-2	2016743-05	Total Recoverable Chromium	6/10/2020	0.86	Y	y	v j		3.0	0.50	ug/L
MW-4-2	2016743-05	Total Recoverable Arsenic	6/10/2020	2	Y	n	u		2.0	0.70	ug/L
MW-4-3	2016743-04	Total Recoverable Chromium	6/10/2020	1	Y	y	v j		3.0	0.50	ug/L
MW-4-3	2016743-04	Total Recoverable Lead	6/10/2020	1	Y	n	u		1.0	0.10	ug/L
MW-4-3	2016743-04	Total Recoverable Arsenic	6/10/2020	2	Y	n	u		2.0	0.70	ug/L
MW-4-4	2016743-03	Total Recoverable Arsenic	6/10/2020	2	Y	n	u		2.0	0.70	ug/L
MW-4-4	2016743-03	Total Recoverable Chromium	6/10/2020	0.63	Y	y	v j		3.0	0.50	ug/L
MW-4-4	2016743-03	Total Recoverable Lead	6/10/2020	1	Y	n	u		1.0	0.10	ug/L
MW-4-5	2016743-02	Total Recoverable Arsenic	6/10/2020	1.1	Y	y	v j		2.0	0.70	ug/L
MW-4-5	2016743-02	Total Recoverable Chromium	6/10/2020	2.4	Y	y	v j		3.0	0.50	ug/L
MW-4-5	2016743-02	Total Recoverable Lead	6/10/2020	1	Y	n	u		1.0	0.10	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
EB-1-060920	2016743-07	Hexavalent Chromium	6/10/2020	0.0002	Y	n	u		0.0002	0.00003	mg/L
MW-4-1	2016743-06	Hexavalent Chromium	6/10/2020	0.00011	Y	y	v j		0.0002	0.00003	mg/L
MW-4-2	2016743-05	Hexavalent Chromium	6/10/2020	0.0002	Y	n	u		0.0002	0.00003	mg/L
MW-4-3	2016743-04	Hexavalent Chromium	6/10/2020	######	Y	y	v j		0.0002	0.00003	mg/L

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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-4-4	2016743-03	Hexavalent Chromium	6/10/2020	0.0002	Y	n	u		0.0002	0.00003	mg/L
MW-4-5	2016743-02	Hexavalent Chromium	6/10/2020	0.0002	Y	n	u		0.0002	0.00003	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**
EB-1-060920	2016743-07	Chloride	6/10/2020	0.24	Y	y	v j		0.50	0.13	mg/L
EB-1-060920	2016743-07	Nitrate as N	6/10/2020	0.1	Y	n	u		0.10	0.024	mg/L
EB-1-060920	2016743-07	Sulfate	6/10/2020	1	Y	n	u		1.0	0.14	mg/L
MW-4-1	2016743-06	Nitrate as N	6/10/2020	0.66	Y	y	v		0.10	0.024	mg/L
MW-4-1	2016743-06	Sulfate	6/10/2020	35	Y	y	v		1.0	0.14	mg/L
MW-4-1	2016743-06	Chloride	6/10/2020	11	Y	y	v		0.50	0.13	mg/L
MW-4-2	2016743-05	Nitrate as N	6/10/2020	7.7	Y	y	v		0.10	0.024	mg/L
MW-4-2	2016743-05	Chloride	6/10/2020	93	Y	y	v		0.50	0.13	mg/L
MW-4-2	2016743-05	Sulfate	6/10/2020	130	Y	y	v		1.0	0.14	mg/L
MW-4-3	2016743-04	Sulfate	6/10/2020	89	Y	y	v		1.0	0.14	mg/L
MW-4-3	2016743-04	Chloride	6/10/2020	75	Y	y	v		0.50	0.13	mg/L
MW-4-3	2016743-04	Nitrate as N	6/10/2020	3.5	Y	y	v		0.10	0.024	mg/L
MW-4-4	2016743-03	Nitrate as N	6/10/2020	3.8	Y	y	v		0.10	0.024	mg/L
MW-4-4	2016743-03	Sulfate	6/10/2020	74	Y	y	v		1.0	0.14	mg/L
MW-4-4	2016743-03	Chloride	6/10/2020	54	Y	y	v		0.50	0.13	mg/L
MW-4-5	2016743-02	Sulfate	6/10/2020	79	Y	y	v		1.0	0.14	mg/L
MW-4-5	2016743-02	Nitrate as N	6/10/2020	1	Y	y	v		0.10	0.024	mg/L
MW-4-5	2016743-02	Chloride	6/10/2020	53	Y	y	v		0.50	0.13	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**

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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
EB-1-060920	2016743-07	Perchlorate	6/18/2020	4	Y	n	u		4.0	0.81	ug/L
MW-4-1	2016743-06	Perchlorate	6/18/2020	4	Y	n	u		4.0	0.81	ug/L
MW-4-2	2016743-05	Perchlorate	6/18/2020	50	Y	y	v		20	4.0	ug/L
MW-4-3	2016743-04	Perchlorate	6/18/2020	1.3	Y	y	v j		4.0	0.81	ug/L
MW-4-4	2016743-03	Perchlorate	6/18/2020	2	Y	y	v j		4.0	0.81	ug/L
MW-4-5	2016743-02	Perchlorate	6/18/2020	1.9	Y	y	v j		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
EB-1-060920	2016743-07	Nitrite as N	6/9/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-4-1	2016743-06	Nitrite as N	6/9/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-4-2	2016743-05	Nitrite as N	6/9/2020	0.025	Y	y	v j		0.050	0.010	mg/L
MW-4-3	2016743-04	Nitrite as N	6/9/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-4-4	2016743-03	Nitrite as N	6/9/2020	0.16	Y	y	v		0.050	0.010	mg/L
MW-4-5	2016743-02	Nitrite as N	6/9/2020	0.48	Y	y	v		0.050	0.010	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
EB-1-060920	2016743-07	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
EB-1-060920	2016743-07	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-1-060920	2016743-07	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-1-060920	2016743-07	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-1-060920	2016743-07	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-1-060920	2016743-07	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-1-060920	2016743-07	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-1-060920	2016743-07	Vinyl chloride	6/11/2020	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
EB-1-060920	2016743-07	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-1-060920	2016743-07	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
EB-1-060920	2016743-07	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
EB-1-060920	2016743-07	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
EB-1-060920	2016743-07	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
EB-1-060920	2016743-07	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
EB-1-060920	2016743-07	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-1-060920	2016743-07	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
EB-1-060920	2016743-07	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-1-060920	2016743-07	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
EB-1-060920	2016743-07	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
EB-1-060920	2016743-07	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-1-060920	2016743-07	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-1-060920	2016743-07	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
EB-1-060920	2016743-07	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-1-060920	2016743-07	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-1-060920	2016743-07	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-1-060920	2016743-07	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-1-060920	2016743-07	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
EB-1-060920	2016743-07	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-1-060920	2016743-07	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
EB-1-060920	2016743-07	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
EB-1-060920	2016743-07	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
EB-1-060920	2016743-07	1,1-Dichloropropanone	6/11/2020	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
EB-1-060920	2016743-07	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
EB-1-060920	2016743-07	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
EB-1-060920	2016743-07	4-Bromofluorobenzene (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
EB-1-060920	2016743-07	Toluene-d8 (Surrogate)	6/11/2020	9.9	Y	y	v s				ug/L
EB-1-060920	2016743-07	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-1-060920	2016743-07	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-1-060920	2016743-07	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-1-060920	2016743-07	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
EB-1-060920	2016743-07	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
EB-1-060920	2016743-07	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
EB-1-060920	2016743-07	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
EB-1-060920	2016743-07	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
EB-1-060920	2016743-07	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-1-060920	2016743-07	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
EB-1-060920	2016743-07	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
EB-1-060920	2016743-07	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
EB-1-060920	2016743-07	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-1-060920	2016743-07	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-1-060920	2016743-07	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-1-060920	2016743-07	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-1-060920	2016743-07	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-1-060920	2016743-07	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-1-060920	2016743-07	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-1-060920	2016743-07	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-1-060920	2016743-07	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	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-1-060920	2016743-07	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-1-060920	2016743-07	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
EB-1-060920	2016743-07	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-1-060920	2016743-07	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-1-060920	2016743-07	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-1-060920	2016743-07	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-1-060920	2016743-07	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-1-060920	2016743-07	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-1-060920	2016743-07	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-1-060920	2016743-07	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-1-060920	2016743-07	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-1-060920	2016743-07	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-1-060920	2016743-07	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-1-060920	2016743-07	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-1-060920	2016743-07	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-1-060920	2016743-07	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
EB-1-060920	2016743-07	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-1-060920	2016743-07	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-1-060920	2016743-07	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	1,3-Dichloropropane	6/11/2020	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
EB-1-060920	2016743-07	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-1-060920	2016743-07	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-1-060920	2016743-07	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-1-060920	2016743-07	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-1-060920	2016743-07	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-1-060920	2016743-07	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2016743-06	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2016743-06	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-1	2016743-06	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-1	2016743-06	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2016743-06	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2016743-06	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-1	2016743-06	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2016743-06	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-1	2016743-06	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-1	2016743-06	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-1	2016743-06	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-1	2016743-06	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-1	2016743-06	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-1	2016743-06	t-Amyl Methyl ether	6/11/2020	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	2016743-06	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-4-1	2016743-06	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-1	2016743-06	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-1	2016743-06	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-1	2016743-06	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-4-1	2016743-06	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-1	2016743-06	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-1	2016743-06	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-4-1	2016743-06	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-4-1	2016743-06	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-1	2016743-06	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-1	2016743-06	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-4-1	2016743-06	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-1	2016743-06	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2016743-06	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-1	2016743-06	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-4-1	2016743-06	Toluene-d8 (Surrogate)	6/11/2020	9.7	Y	y	v s				ug/L
MW-4-1	2016743-06	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-4-1	2016743-06	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-1	2016743-06	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-1	2016743-06	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-4-1	2016743-06	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-4-1	2016743-06	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
MW-4-1	2016743-06	1-Chlorobutane	6/11/2020	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	2016743-06	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-4-1	2016743-06	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-4-1	2016743-06	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-4-1	2016743-06	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-4-1	2016743-06	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-1	2016743-06	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-1	2016743-06	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-4-1	2016743-06	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-4-1	2016743-06	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-4-1	2016743-06	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-1	2016743-06	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-4-1	2016743-06	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2016743-06	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-1	2016743-06	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-1	2016743-06	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-1	2016743-06	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2016743-06	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2016743-06	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-1	2016743-06	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-1	2016743-06	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2016743-06	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-1	2016743-06	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2016743-06	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L

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MW-4-1	2016743-06	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-1	2016743-06	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-1	2016743-06	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-1	2016743-06	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-1	2016743-06	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2016743-06	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2016743-06	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-1	2016743-06	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-1	2016743-06	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2016743-06	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2016743-06	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-1	2016743-06	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-1	2016743-06	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-1	2016743-06	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2016743-06	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-1	2016743-06	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-1	2016743-06	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-4-1	2016743-06	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-1	2016743-06	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-1	2016743-06	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-1	2016743-06	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2016743-05	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2016743-05	1,3,5-Trimethylbenzene	6/11/2020	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-4-2	2016743-05	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-4-2	2016743-05	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-2	2016743-05	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-2	2016743-05	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-2	2016743-05	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-2	2016743-05	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-4-2	2016743-05	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-4-2	2016743-05	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-2	2016743-05	Tetrachloroethene	6/11/2020	0.23	Y	y	v j		0.50	0.23	ug/L
MW-4-2	2016743-05	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2016743-05	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-2	2016743-05	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-2	2016743-05	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-2	2016743-05	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2016743-05	Trichloroethene	6/11/2020	0.39	Y	y	v j		0.50	0.19	ug/L
MW-4-2	2016743-05	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-2	2016743-05	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-2	2016743-05	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-2	2016743-05	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-2	2016743-05	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-2	2016743-05	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-2	2016743-05	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L

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MW-4-2	2016743-05	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-4-2	2016743-05	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-2	2016743-05	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-2	2016743-05	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-4-2	2016743-05	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-4-2	2016743-05	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-4-2	2016743-05	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-4-2	2016743-05	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-4-2	2016743-05	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-4-2	2016743-05	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-4-2	2016743-05	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-2	2016743-05	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-2	2016743-05	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-2	2016743-05	Toluene-d8 (Surrogate)	6/11/2020	9.9	Y	y	v s				ug/L
MW-4-2	2016743-05	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-2	2016743-05	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-2	2016743-05	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-2	2016743-05	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-2	2016743-05	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-2	2016743-05	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-2	2016743-05	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2016743-05	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-2	2016743-05	Chloroform	6/11/2020	0.59	Y	y	v		0.50	0.14	ug/L

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MW-4-2	2016743-05	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2016743-05	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2016743-05	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-2	2016743-05	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-2	2016743-05	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-2	2016743-05	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-2	2016743-05	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-2	2016743-05	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-4-2	2016743-05	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2016743-05	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-2	2016743-05	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-2	2016743-05	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-4-2	2016743-05	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2016743-05	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-2	2016743-05	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2016743-05	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2016743-05	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-2	2016743-05	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-2	2016743-05	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-2	2016743-05	1,1-Dichloropropene	6/11/2020	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-4-2	2016743-05	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-2	2016743-05	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-2	2016743-05	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2016743-05	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-2	2016743-05	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-2	2016743-05	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-2	2016743-05	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-2	2016743-05	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-2	2016743-05	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-2	2016743-05	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-4-3	2016743-04	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2016743-04	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-4-3	2016743-04	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-3	2016743-04	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-4-3	2016743-04	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-4-3	2016743-04	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-3	2016743-04	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-3	2016743-04	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-3	2016743-04	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-4-3	2016743-04	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-4-3	2016743-04	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-3	2016743-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-4-3	2016743-04	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-3	2016743-04	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	Trichloroethene	6/11/2020	0.28	Y	y	v j		0.50	0.19	ug/L
MW-4-3	2016743-04	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2016743-04	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2016743-04	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2016743-04	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-3	2016743-04	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2016743-04	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-3	2016743-04	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-4-3	2016743-04	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-4-3	2016743-04	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-4-3	2016743-04	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
MW-4-3	2016743-04	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-4-3	2016743-04	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-4-3	2016743-04	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-4-3	2016743-04	Toluene-d8 (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
MW-4-3	2016743-04	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-4-3	2016743-04	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-3	2016743-04	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-3	2016743-04	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-3	2016743-04	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-4-3	2016743-04	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-4-3	2016743-04	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-3	2016743-04	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L

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MW-4-3	2016743-04	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-3	2016743-04	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-4-3	2016743-04	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-4-3	2016743-04	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-4-3	2016743-04	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2016743-04	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-3	2016743-04	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2016743-04	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-3	2016743-04	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2016743-04	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-3	2016743-04	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-3	2016743-04	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-3	2016743-04	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-3	2016743-04	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-3	2016743-04	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2016743-04	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-3	2016743-04	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-3	2016743-04	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2016743-04	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-3	2016743-04	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-3	2016743-04	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-3	2016743-04	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L

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MW-4-3	2016743-04	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2016743-04	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-3	2016743-04	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2016743-04	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-3	2016743-04	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-3	2016743-04	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-3	2016743-04	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-4-3	2016743-04	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-3	2016743-04	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-3	2016743-04	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-3	2016743-04	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2016743-04	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-3	2016743-04	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2016743-04	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-3	2016743-04	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-3	2016743-04	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-3	2016743-04	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2016743-04	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2016743-04	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-3	2016743-04	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-3	2016743-04	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-3	2016743-04	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-4-3	2016743-04	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-3	2016743-04	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-4	2016743-03	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2016743-03	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-4-4	2016743-03	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-4-4	2016743-03	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2016743-03	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-4	2016743-03	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-4	2016743-03	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-4-4	2016743-03	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-4	2016743-03	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2016743-03	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2016743-03	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2016743-03	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-4	2016743-03	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-4	2016743-03	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2016743-03	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2016743-03	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2016743-03	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2016743-03	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2016743-03	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2016743-03	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-4	2016743-03	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-4-4	2016743-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2016743-03	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L

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MW-4-4	2016743-03	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-4-4	2016743-03	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-4-4	2016743-03	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
MW-4-4	2016743-03	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-4-4	2016743-03	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-4-4	2016743-03	4-Bromofluorobenzene (Surrogate)	6/11/2020	9.9	Y	y	v s				ug/L
MW-4-4	2016743-03	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	9.7	Y	y	v s				ug/L
MW-4-4	2016743-03	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-4	2016743-03	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-4	2016743-03	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-4-4	2016743-03	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-4-4	2016743-03	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-4	2016743-03	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-4-4	2016743-03	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-4	2016743-03	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-4-4	2016743-03	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-4-4	2016743-03	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-4-4	2016743-03	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-4	2016743-03	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-4	2016743-03	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-4	2016743-03	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-4-4	2016743-03	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2016743-03	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-4	2016743-03	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-4	2016743-03	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	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	2016743-03	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-4	2016743-03	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-4	2016743-03	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2016743-03	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-4	2016743-03	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2016743-03	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2016743-03	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2016743-03	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2016743-03	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-4	2016743-03	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-4	2016743-03	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2016743-03	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-4	2016743-03	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-4	2016743-03	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-4	2016743-03	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-4	2016743-03	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2016743-03	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-4	2016743-03	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2016743-03	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-4	2016743-03	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-4	2016743-03	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-4-4	2016743-03	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2016743-03	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2016743-03	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2016743-03	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-4-4	2016743-03	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-4	2016743-03	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2016743-03	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-4	2016743-03	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-4	2016743-03	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-4	2016743-03	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-4	2016743-03	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-4	2016743-03	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2016743-03	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2016743-03	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-4	2016743-03	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-4	2016743-03	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-4	2016743-03	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2016743-03	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-4	2016743-03	Toluene-d8 (Surrogate)	6/11/2020	9.7	Y	y	v s				ug/L
MW-4-4	2016743-03	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-4	2016743-03	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2016743-02	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-5	2016743-02	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2016743-02	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2016743-02	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-5	2016743-02	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2016743-02	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2016743-02	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2016743-02	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L

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MW-4-5	2016743-02	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2016743-02	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2016743-02	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-5	2016743-02	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2016743-02	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2016743-02	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2016743-02	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2016743-02	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2016743-02	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2016743-02	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-4-5	2016743-02	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-5	2016743-02	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-4-5	2016743-02	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2016743-02	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2016743-02	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2016743-02	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2016743-02	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-4-5	2016743-02	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-4-5	2016743-02	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-4-5	2016743-02	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-4-5	2016743-02	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2016743-02	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2016743-02	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-5	2016743-02	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2016743-02	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-4-5	2016743-02	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-4-5	2016743-02	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2016743-02	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-5	2016743-02	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2016743-02	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-4-5	2016743-02	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-5	2016743-02	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
MW-4-5	2016743-02	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-4-5	2016743-02	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-5	2016743-02	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2016743-02	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2016743-02	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-4-5	2016743-02	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-4-5	2016743-02	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-4-5	2016743-02	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-4-5	2016743-02	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-4-5	2016743-02	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-4-5	2016743-02	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-4-5	2016743-02	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-4-5	2016743-02	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-4-5	2016743-02	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2016743-02	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-4-5	2016743-02	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-4-5	2016743-02	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-4-5	2016743-02	Toluene-d8 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L

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MW-4-5	2016743-02	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-4-5	2016743-02	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-4-5	2016743-02	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-4-5	2016743-02	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
MW-4-5	2016743-02	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-4-5	2016743-02	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-4-5	2016743-02	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-4-5	2016743-02	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-4-5	2016743-02	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-4-5	2016743-02	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2016743-02	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2016743-02	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-4-5	2016743-02	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2016743-02	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-4-5	2016743-02	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2016743-02	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2016743-02	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-4-5	2016743-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-4-5	2016743-02	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-4-5	2016743-02	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-4-5	2016743-02	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-4-5	2016743-02	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-4-5	2016743-02	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-4-5	2016743-02	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-4-5	2016743-02	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-4-5	2016743-02	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-4-5	2016743-02	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-4-5	2016743-02	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-4-5	2016743-02	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-4-5	2016743-02	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-4-5	2016743-02	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-4-5	2016743-02	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-1-060920	2016743-01	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-1-060920	2016743-01	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-1-060920	2016743-01	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-1-060920	2016743-01	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-1-060920	2016743-01	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-1-060920	2016743-01	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-1-060920	2016743-01	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-1-060920	2016743-01	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-1-060920	2016743-01	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-1-060920	2016743-01	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-1-060920	2016743-01	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-1-060920	2016743-01	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
TB-1-060920	2016743-01	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-1-060920	2016743-01	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-1-060920	2016743-01	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-1-060920	2016743-01	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-1-060920	2016743-01	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-1-060920	2016743-01	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L

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TB-1-060920	2016743-01	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
TB-1-060920	2016743-01	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-1-060920	2016743-01	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-1-060920	2016743-01	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-1-060920	2016743-01	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-1-060920	2016743-01	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-1-060920	2016743-01	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-1-060920	2016743-01	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-1-060920	2016743-01	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-1-060920	2016743-01	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-1-060920	2016743-01	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
TB-1-060920	2016743-01	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-1-060920	2016743-01	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-1-060920	2016743-01	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-1-060920	2016743-01	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-1-060920	2016743-01	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-1-060920	2016743-01	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-1-060920	2016743-01	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-1-060920	2016743-01	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-1-060920	2016743-01	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-1-060920	2016743-01	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-1-060920	2016743-01	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-1-060920	2016743-01	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
TB-1-060920	2016743-01	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-1-060920	2016743-01	1,2-Dichlorobenzene	6/11/2020	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-1-060920	2016743-01	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-1-060920	2016743-01	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-1-060920	2016743-01	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
TB-1-060920	2016743-01	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-1-060920	2016743-01	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-1-060920	2016743-01	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
TB-1-060920	2016743-01	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
TB-1-060920	2016743-01	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
TB-1-060920	2016743-01	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-1-060920	2016743-01	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
TB-1-060920	2016743-01	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
TB-1-060920	2016743-01	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
TB-1-060920	2016743-01	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
TB-1-060920	2016743-01	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-1-060920	2016743-01	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
TB-1-060920	2016743-01	Toluene-d8 (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
TB-1-060920	2016743-01	4-Bromofluorobenzene (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
TB-1-060920	2016743-01	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
TB-1-060920	2016743-01	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
TB-1-060920	2016743-01	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
TB-1-060920	2016743-01	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-1-060920	2016743-01	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-1-060920	2016743-01	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
TB-1-060920	2016743-01	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
TB-1-060920	2016743-01	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	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
TB-1-060920	2016743-01	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-1-060920	2016743-01	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-1-060920	2016743-01	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-1-060920	2016743-01	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-1-060920	2016743-01	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-1-060920	2016743-01	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
TB-1-060920	2016743-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-1-060920	2016743-01	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-1-060920	2016743-01	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-1-060920	2016743-01	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
TB-1-060920	2016743-01	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-1-060920	2016743-01	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-1-060920	2016743-01	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
TB-1-060920	2016743-01	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
TB-1-060920	2016743-01	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
TB-1-060920	2016743-01	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-1-060920	2016743-01	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
TB-1-060920	2016743-01	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-1-060920	2016743-01	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
TB-1-060920	2016743-01	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-1-060920	2016743-01	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
TB-1-060920	2016743-01	1,3,5-Trimethylbenzene	6/11/2020	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

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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	2016743-06	1,4-Dioxane	6/22/2020	1	Y	n	u		1.0	0.16	ug/L
MW-4-1	2016743-06	Naphthalene-d8 (Surrogate)	6/22/2020	8.4	Y	y	v s				ug/L
MW-4-2	2016743-05	1,2,4,5-Tetrachlorobenzene	6/16/2020	10	Y	n	u		10	0.20	ug/L
MW-4-2	2016743-05	2,4,5-Trimethylaniline	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	2,4,5-Trichlorophenol	6/16/2020	5	Y	n	u		5.0	0.20	ug/L
MW-4-2	2016743-05	2,3,4,6-Tetrachlorophenol	6/16/2020	10	Y	n	u		10	0.73	ug/L
MW-4-2	2016743-05	2,3,4,5-Tetrachlorophenol	6/16/2020	10	Y	n	u		10	5.0	ug/L
MW-4-2	2016743-05	1-Naphthylamine	6/16/2020	20	Y	n	u	UJ	20	0.30	ug/L
MW-4-2	2016743-05	1-Methylnaphthalene	6/16/2020	10	Y	n	u		10	0.26	ug/L
MW-4-2	2016743-05	1-Chloronaphthalene	6/16/2020	10	Y	n	u		10	0.37	ug/L
MW-4-2	2016743-05	1-Acetyl-2-thiourea	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	1,4-Phenylenediamine	6/16/2020	20	Y	n	u		20	1.1	ug/L
MW-4-2	2016743-05	Isophorone	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	1,4-Dinitrobenzene	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	1,4-Dichlorobenzene	6/16/2020	2	Y	n	u		2.0	0.27	ug/L
MW-4-2	2016743-05	1,3-Dinitrobenzene	6/16/2020	10	Y	n	u		10	0.93	ug/L
MW-4-2	2016743-05	1,3-Dichlorobenzene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	1,3,5-Trinitrobenzene	6/16/2020	10	Y	n	u		10	1.4	ug/L
MW-4-2	2016743-05	1,2-Diphenylhydrazine	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	1,2-Dinitrobenzene	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	1,1-Biphenyl	6/16/2020	10	Y	n	u		10	3.6	ug/L
MW-4-2	2016743-05	Toxaphene	6/16/2020	100	Y	n	u		100	50	ug/L
MW-4-2	2016743-05	1,2-Dibromo-3-chloropropane	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	2,4,6-Tribromophenol (Surrogate)	6/16/2020	46	Y	y	v s				ug/L
MW-4-2	2016743-05	1,4-Naphthoquinone	6/16/2020	20	Y	n	u	UJ	20	0.87	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	2016743-05	2-Cyclohexyl-4,6-dinitrophenol	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Dichlorvos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	1,2,4-Trichlorobenzene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	trans-Chlordane	6/16/2020	5	Y	n	u		5.0	0.55	ug/L
MW-4-2	2016743-05	Total PCB's (Summation)	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	Toluene 2,4-diisocyanate	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Thiophenol (Benzenethiol)	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Thionazin	6/16/2020	10	Y	n	u		10	0.38	ug/L
MW-4-2	2016743-05	Tetrachlorvinphos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	2-Methylphenol	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	2-Methylnaphthalene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Total Methylphenol	6/16/2020	4	Y	n	u		4.0	0.60	ug/L
MW-4-2	2016743-05	2-Fluorobiphenyl (Surrogate)	6/16/2020	34	Y	y	v s				ug/L
MW-4-2	2016743-05	2,4,6-Trichlorophenol	6/16/2020	5	Y	n	u		5.0	0.20	ug/L
MW-4-2	2016743-05	2-Chlorophenol	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	2-Chloronaphthalene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	2-Aminoanthraquinone	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	2-Acetylaminofluorene	6/16/2020	10	Y	n	u		10	0.78	ug/L
MW-4-2	2016743-05	2,6-Dinitrotoluene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	2,6-Dichlorophenol	6/16/2020	10	Y	n	u		10	0.28	ug/L
MW-4-2	2016743-05	2,4-Dinitrotoluene	6/16/2020	2	Y	n	u		2.0	0.40	ug/L
MW-4-2	2016743-05	2,4-Dinitrophenol	6/16/2020	10	Y	n	u		10	0.20	ug/L
MW-4-2	2016743-05	2,4-Dimethylphenol	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	2,4-Dichlorophenol	6/16/2020	2	Y	n	u		2.0	0.23	ug/L
MW-4-2	2016743-05	2,4-Diaminotoluene	6/16/2020	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-4-2	2016743-05	2-Fluorophenol (Surrogate)	6/16/2020	30	Y	y	v s				ug/L
MW-4-2	2016743-05	3- & 4-Methylphenol	6/16/2020	2	Y	n	u		2.0	0.40	ug/L
MW-4-2	2016743-05	Barban	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4,4'-Oxydianiline	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4,4'-Methylenebis[N,N-dimethylaniline]	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4,4'-Methylenebis(2-chloroaniline)	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4,4'-DDT	6/16/2020	2	Y	n	u		2.0	0.22	ug/L
MW-4-2	2016743-05	4,4'-DDE	6/16/2020	3	Y	n	u		3.0	0.24	ug/L
MW-4-2	2016743-05	4,4'-DDD	6/16/2020	2	Y	n	u		2.0	0.26	ug/L
MW-4-2	2016743-05	3-Nitroaniline	6/16/2020	2	Y	n	u		2.0	0.22	ug/L
MW-4-2	2016743-05	3-Methylcholanthrene	6/16/2020	10	Y	n	u		10	0.31	ug/L
MW-4-2	2016743-05	3-Amino-9-ethylcarbazole	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	3,3'-Dimethylbenzidine	6/16/2020	20	Y	n	u		20	0.42	ug/L
MW-4-2	2016743-05	3,3'-Dimethoxybenzidine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4-Aminobiphenyl	6/16/2020	20	Y	n	u		20	0.35	ug/L
MW-4-2	2016743-05	3-(Chloromethyl) pyridine hydrochloride	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4-Bromophenyl phenyl ether	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	2-Toluidine	6/16/2020	10	Y	n	u		10	0.41	ug/L
MW-4-2	2016743-05	2-Picoline	6/16/2020	10	Y	n	u		10	1.2	ug/L
MW-4-2	2016743-05	2-Nitrophenol	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	2-Nitroaniline	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Phthalic anhydride	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Phosphamidon	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Phosmet	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Phosalone	6/16/2020	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-4-2	2016743-05	Phorate	6/16/2020	10	Y	n	u		10	0.35	ug/L
MW-4-2	2016743-05	Phenol-d5 (Surrogate)	6/16/2020	20	Y	y	v s				ug/L
MW-4-2	2016743-05	Phenol	6/16/2020	2	Y	n	u		2.0	0.21	ug/L
MW-4-2	2016743-05	Phenobarbital	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	3,3-Dichlorobenzidine	6/16/2020	10	Y	n	u	UJ	10	0.53	ug/L
MW-4-2	2016743-05	5-Nitro-o-anisidine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Azinphos methyl	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Dicrotophos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Anthracene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	1,2-Dichlorobenzene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Anilazine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	alpha-BHC	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Aldrin	6/16/2020	2	Y	n	u		2.0	0.23	ug/L
MW-4-2	2016743-05	Acrolein, dimethyl acetal	6/16/2020	40	Y	n	u		40	6.1	ug/L
MW-4-2	2016743-05	Acetophenone	6/16/2020	10	Y	n	u		10	0.33	ug/L
MW-4-2	2016743-05	Acenaphthylene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Acenaphthene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	a,a-Dimethylphenethylamine	6/16/2020	20	Y	n	u		20	4.9	ug/L
MW-4-2	2016743-05	4,6-Dinitro-2-methylphenol	6/16/2020	10	Y	n	u		10	0.24	ug/L
MW-4-2	2016743-05	5-Nitro-o-toluidine	6/16/2020	10	Y	n	u		10	0.85	ug/L
MW-4-2	2016743-05	Pentachlorophenol	6/16/2020	10	Y	n	u		10	0.40	ug/L
MW-4-2	2016743-05	5-Nitroacenaphthene	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	5-Chloro-2-methylaniline	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	5,5-Diphenylhydantoin	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4-Nitroquinoline 1-oxide	6/16/2020	20	Y	n	u		20	0.95	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	2016743-05	4-Nitrophenol	6/16/2020	2	Y	n	u		2.0	0.30	ug/L
MW-4-2	2016743-05	4-Nitrobiphenyl	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4-Nitroaniline	6/16/2020	5	Y	n	u		5.0	0.38	ug/L
MW-4-2	2016743-05	4-Chlorophenyl phenyl ether	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	4-Chloroaniline	6/16/2020	2	Y	n	u		2.0	1.1	ug/L
MW-4-2	2016743-05	4-Chloro-3-methylphenol	6/16/2020	5	Y	n	u		5.0	0.20	ug/L
MW-4-2	2016743-05	4-Chloro-1,3-phenylenediamine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	4-Chloro-1,2-phenylenediamine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	7,12-Dimethylbenz[a]anthracene	6/16/2020	10	Y	n	u		10	0.37	ug/L
MW-4-2	2016743-05	Mexacarbate	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	N-Nitrosodiphenylamine	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	N-Nitrosodi-N-propylamine	6/16/2020	2	Y	n	u		2.0	0.21	ug/L
MW-4-2	2016743-05	N-Nitrosodimethylamine	6/16/2020	2	Y	n	u		2.0	1.2	ug/L
MW-4-2	2016743-05	N-Nitrosodiethylamine	6/16/2020	10	Y	n	u		10	0.55	ug/L
MW-4-2	2016743-05	N-Nitrosodibutylamine	6/16/2020	10	Y	n	u		10	0.26	ug/L
MW-4-2	2016743-05	N-Methyl-2-pyrrolidinone	6/16/2020	10	Y	n	u		10	2.5	ug/L
MW-4-2	2016743-05	Nitrophen	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Nitrobenzene-d5 (Surrogate)	6/16/2020	39	Y	y	v s				ug/L
MW-4-2	2016743-05	Nitrobenzene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Nicotine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Naphthalene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Naled	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Phenanthrene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Mirex	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	N-Nitrosopiperidine	6/16/2020	10	Y	n	u		10	0.47	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	2016743-05	Mevinphos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Methyl parathion	6/16/2020	10	Y	n	u	UJ	10	0.71	ug/L
MW-4-2	2016743-05	Methyl methanesulfonate	6/16/2020	10	Y	n	u		10	0.40	ug/L
MW-4-2	2016743-05	Methyl methacrylate	6/16/2020	40	Y	n	u		40	3.8	ug/L
MW-4-2	2016743-05	Methoxychlor	6/16/2020	10	Y	n	u		10	0.20	ug/L
MW-4-2	2016743-05	Methapyrilene	6/16/2020	10	Y	n	u		10	2.9	ug/L
MW-4-2	2016743-05	Mestranol	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Maleic Anhydride	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Malathion	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Leptophos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Kepone	6/16/2020	20	Y	n	u		20	2.2	ug/L
MW-4-2	2016743-05	Isosafrole	6/16/2020	10	Y	n	u		10	0.73	ug/L
MW-4-2	2016743-05	Monocrotophos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Trimethyl phosphate	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Aramite	6/16/2020	10	Y	n	u	UJ	10	0.35	ug/L
MW-4-2	2016743-05	Pentachloronitrobenzene	6/16/2020	10	Y	n	u		10	0.42	ug/L
MW-4-2	2016743-05	Pentachloroethane	6/16/2020	20	Y	n	u		20	0.31	ug/L
MW-4-2	2016743-05	Pentachlorobenzene	6/16/2020	10	Y	n	u		10	0.20	ug/L
MW-4-2	2016743-05	p-Cresidine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	PCB-1268	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	PCB-1262	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	PCB-1260	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	PCB-1254	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	PCB-1248	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	PCB-1242	6/16/2020	50	Y	n	u	UJ	50	25	ug/L

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Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-2	2016743-05	trans-Diallate	6/16/2020	5	Y	n	u		5.0	0.56	ug/L
MW-4-2	2016743-05	N-Nitrosomethylethylamine	6/16/2020	10	Y	n	u		10	0.61	ug/L
MW-4-2	2016743-05	Trifluralin	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	N-Nitrosomorpholine	6/16/2020	10	Y	n	u		10	0.63	ug/L
MW-4-2	2016743-05	Tri-p-tolyl phosphate	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Tris(2,3-dibromopropyl) phosphate	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Tris(hydroxymethyl)nitromethane	6/16/2020	50	Y	n	u		50	5.0	ug/L
MW-4-2	2016743-05	PCB-1232	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	PCB-1221	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	PCB-1016	6/16/2020	50	Y	n	u	UJ	50	25	ug/L
MW-4-2	2016743-05	p-Benzoquinone	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	p-(Dimethylamino)azobenzene	6/16/2020	10	Y	n	u	UJ	10	0.27	ug/L
MW-4-2	2016743-05	Octamethylpyrophosphoramide	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	o-Anisidine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	o,o,o-Triethylphosphorothioate	6/16/2020	10	Y	n	u		10	0.44	ug/L
MW-4-2	2016743-05	N-Nitrosopyrrolidine	6/16/2020	10	Y	n	u		10	0.39	ug/L
MW-4-2	2016743-05	Phenacetin	6/16/2020	10	Y	n	u		10	0.75	ug/L
MW-4-2	2016743-05	trans-Isosafrole	6/16/2020	5	Y	n	u		5.0	0.29	ug/L
MW-4-2	2016743-05	Dinocap	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Hexachlorophene	6/16/2020	200	Y	n	u	UJ	200	20	ug/L
MW-4-2	2016743-05	Hexachloropropene	6/16/2020	20	Y	n	u		20	0.23	ug/L
MW-4-2	2016743-05	Hexamethylphosphoramide	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Hydroquinone	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Indeno[1,2,3-cd]pyrene	6/16/2020	2	Y	n	u		2.0	0.29	ug/L
MW-4-2	2016743-05	Isodrin	6/16/2020	10	Y	n	u		10	0.43	ug/L

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Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-2	2016743-05	Terbufos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	TEPP	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Sulfotep	6/16/2020	10	Y	n	u		10	0.23	ug/L
MW-4-2	2016743-05	Dioxathion	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Dieldrin	6/16/2020	3	Y	n	u		3.0	0.39	ug/L
MW-4-2	2016743-05	Di-n-octyl phthalate	6/16/2020	2	Y	n	u		2.0	0.21	ug/L
MW-4-2	2016743-05	Hexachlorocyclopentadiene	6/16/2020	2	Y	n	u		2.0	0.31	ug/L
MW-4-2	2016743-05	Di-n-butyl phthalate	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Dimethyl sulfoxide (DMSO)	6/16/2020	10	Y	n	u		10	9.5	ug/L
MW-4-2	2016743-05	Aniline	6/16/2020	5	Y	n	u		5.0	0.28	ug/L
MW-4-2	2016743-05	Dimethyl phthalate	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Benefin	6/16/2020	10	Y	n	u		10	0.88	ug/L
MW-4-2	2016743-05	Sulfallate	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Dimethoate	6/16/2020	20	Y	n	u		20	0.99	ug/L
MW-4-2	2016743-05	Dihydrosafrole	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Diethylstilbestrol	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Diethyl sulfate	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Endosulfan II	6/16/2020	10	Y	n	u		10	0.30	ug/L
MW-4-2	2016743-05	Dinoseb	6/16/2020	10	Y	n	u		10	0.91	ug/L
MW-4-2	2016743-05	Fluchloralin	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Endosulfan sulfate	6/16/2020	3	Y	n	u		3.0	0.23	ug/L
MW-4-2	2016743-05	Endrin	6/16/2020	2	Y	n	u		2.0	0.38	ug/L
MW-4-2	2016743-05	Endrin aldehyde	6/16/2020	10	Y	n	u		10	0.44	ug/L
MW-4-2	2016743-05	Endrin ketone	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	EPN	6/16/2020	0	Y	y	v				ug/L

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Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-2	2016743-05	Ethion	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Ethyl carbamate	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Ethyl methacrylate	6/16/2020	10	Y	n	u	UJ	10	1.2	ug/L
MW-4-2	2016743-05	Ethyl methanesulfonate	6/16/2020	10	Y	n	u		10	0.61	ug/L
MW-4-2	2016743-05	Ethyl Parathion	6/16/2020	10	Y	n	u	UJ	10	0.53	ug/L
MW-4-2	2016743-05	Famphur	6/16/2020	20	Y	n	u	UJ	20	4.1	ug/L
MW-4-2	2016743-05	Hexachloroethane	6/16/2020	0.23	Y	y	v j		2.0	0.20	ug/L
MW-4-2	2016743-05	Fenthion	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	2-Naphthylamine	6/16/2020	20	Y	n	u	UJ	20	1.3	ug/L
MW-4-2	2016743-05	Fluoranthene	6/16/2020	2	Y	n	u		2.0	0.28	ug/L
MW-4-2	2016743-05	Fluorene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	gamma-BHC (Lindane)	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Heptachlor	6/16/2020	2	Y	n	u	UJ	2.0	0.20	ug/L
MW-4-2	2016743-05	Endosulfan I	6/16/2020	10	Y	n	u	UJ	10	0.31	ug/L
MW-4-2	2016743-05	Disulfoton	6/16/2020	10	Y	n	u	UJ	10	0.33	ug/L
MW-4-2	2016743-05	Diphenylamine	6/16/2020	10	Y	n	u		10	0.61	ug/L
MW-4-2	2016743-05	Heptachlor epoxide	6/16/2020	2	Y	n	u		2.0	0.26	ug/L
MW-4-2	2016743-05	Hexachlorobenzene	6/16/2020	2	Y	n	u		2.0	0.25	ug/L
MW-4-2	2016743-05	Hexachlorobutadiene	6/16/2020	0.23	Y	y	v j		2.0	0.20	ug/L
MW-4-2	2016743-05	Strychnine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Fensulfothion	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	bis(2-Chloroethoxy)methane	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Carbophenothion	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Carbofuran	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Dichlone	6/16/2020	0	Y	y	v				ug/L

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Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-2	2016743-05	Carbazole	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Carbaryl	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Captan	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Captafol	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Caprolactam	6/16/2020	10	Y	n	u		10	3.6	ug/L
MW-4-2	2016743-05	Bromoxynil	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	bis(2-Ethylhexyl)phthalate	6/16/2020	4	Y	n	u		4.0	0.20	ug/L
MW-4-2	2016743-05	Diethyl phthalate	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	bis(2-Chloroethyl) ether	6/16/2020	2	Y	n	u		2.0	0.31	ug/L
MW-4-2	2016743-05	Chrysene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	beta-BHC	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Benzyl butyl phthalate	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Benzyl alcohol	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Benzoic acid	6/16/2020	10	Y	n	u		10	0.52	ug/L
MW-4-2	2016743-05	Benzo[k]fluoranthene	6/16/2020	2	Y	n	u		2.0	0.30	ug/L
MW-4-2	2016743-05	Benzo[g,h,i]perylene	6/16/2020	2	Y	n	u		2.0	0.33	ug/L
MW-4-2	2016743-05	Benzo[b]fluoranthene	6/16/2020	2	Y	n	u		2.0	0.24	ug/L
MW-4-2	2016743-05	Benzo[a]pyrene	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Benzo[a]anthracene	6/16/2020	2	Y	n	u		2.0	0.21	ug/L
MW-4-2	2016743-05	Benzidine	6/16/2020	20	Y	n	u	UJ	20	1.6	ug/L
MW-4-2	2016743-05	Benzaldehyde	6/16/2020	10	Y	n	u		10	2.9	ug/L
MW-4-2	2016743-05	bis(2-Chloroisopropyl)ether	6/16/2020	2	Y	n	u	UJ	2.0	0.20	ug/L
MW-4-2	2016743-05	Dibenzo[a,e]pyrene	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Safrole	6/16/2020	10	Y	n	u		10	0.40	ug/L
MW-4-2	2016743-05	Resorcinol	6/16/2020	0	Y	y	v				ug/L

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Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-4-2	2016743-05	Pyridine	6/16/2020	10	Y	n	u		10	1.6	ug/L
MW-4-2	2016743-05	Pyrene	6/16/2020	2	Y	n	u		2.0	0.22	ug/L
MW-4-2	2016743-05	p-Terphenyl-d14 (Surrogate)	6/16/2020	13	Y	y	v s				ug/L
MW-4-2	2016743-05	Prowl	6/16/2020	10	Y	n	u		10	0.83	ug/L
MW-4-2	2016743-05	Propylthiouracil	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Propyleneglycol monomethyl ether acetate	6/16/2020	10	Y	n	u		10	3.7	ug/L
MW-4-2	2016743-05	Pronamide	6/16/2020	10	Y	n	u		10	0.22	ug/L
MW-4-2	2016743-05	Prometryn	6/16/2020	10	Y	n	u		10	1.7	ug/L
MW-4-2	2016743-05	Piperonyl sulfoxide	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Chlorfenvinphos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Dibenzo[a,h]anthracene	6/16/2020	3	Y	n	u		3.0	0.34	ug/L
MW-4-2	2016743-05	Chlorobenzilate	6/16/2020	10	Y	n	u		10	0.27	ug/L
MW-4-2	2016743-05	Dibenz[a,j]acridine	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Diallate	6/16/2020	10	Y	n	u		10	3.0	ug/L
MW-4-2	2016743-05	Demeton-S	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Demeton-O	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	delta-BHC	6/16/2020	2	Y	n	u		2.0	0.20	ug/L
MW-4-2	2016743-05	Crotoxyphos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	Coumaphos	6/16/2020	0	Y	y	v				ug/L
MW-4-2	2016743-05	cis-Isosafrole	6/16/2020	5	Y	n	u		5.0	0.44	ug/L
MW-4-2	2016743-05	cis-Diallate	6/16/2020	5	Y	n	u		5.0	2.4	ug/L
MW-4-2	2016743-05	cis-Chlordane	6/16/2020	5	Y	n	u	UJ	5.0	0.59	ug/L
MW-4-2	2016743-05	Dibenzofuran	6/16/2020	2	Y	n	u		2.0	0.20	ug/L

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Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-1-060920	2016743-07	Total Alkalinity as CaCO3	6/15/2020	4.1	Y	n	u		4.1	4.1	mg/L
EB-1-060920	2016743-07	Carbonate	6/15/2020	2.5	Y	n	u		2.5	2.5	mg/L
EB-1-060920	2016743-07	Bicarbonate	6/15/2020	5	Y	n	u		5.0	5.0	mg/L
MW-4-1	2016743-06	Total Alkalinity as CaCO3	6/15/2020	140	Y	y	v		4.1	4.1	mg/L
MW-4-1	2016743-06	Carbonate	6/15/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-4-1	2016743-06	Bicarbonate	6/15/2020	180	Y	y	v		5.0	5.0	mg/L
MW-4-2	2016743-05	Total Alkalinity as CaCO3	6/15/2020	210	Y	y	v		4.1	4.1	mg/L
MW-4-2	2016743-05	Bicarbonate	6/15/2020	260	Y	y	v		5.0	5.0	mg/L
MW-4-2	2016743-05	Carbonate	6/15/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-4-3	2016743-04	Total Alkalinity as CaCO3	6/15/2020	190	Y	y	v		4.1	4.1	mg/L
MW-4-3	2016743-04	Carbonate	6/15/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-4-3	2016743-04	Bicarbonate	6/15/2020	240	Y	y	v		5.0	5.0	mg/L
MW-4-4	2016743-03	Bicarbonate	6/15/2020	190	Y	y	v		5.0	5.0	mg/L
MW-4-4	2016743-03	Carbonate	6/15/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-4-4	2016743-03	Total Alkalinity as CaCO3	6/15/2020	150	Y	y	v		4.1	4.1	mg/L
MW-4-5	2016743-02	Total Alkalinity as CaCO3	6/15/2020	160	Y	y	v		4.1	4.1	mg/L
MW-4-5	2016743-02	Carbonate	6/15/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-4-5	2016743-02	Bicarbonate	6/15/2020	200	Y	y	v		5.0	5.0	mg/L

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016927

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-2-061020	2016927-01	Water	06/10/20
MW-26-1	2016927-02	Water	06/10/20
MW-26-2	2016927-03	Water	06/10/20
MW-18-5	2016927-04	Water	06/10/20
MW-18-3	2016927-05	Water	06/10/20
MW-18-4	2016927-06	Water	06/10/20
EB-2-061020	2016927-07	Water	06/10/20

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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/10/20	Diethyl ether	74.0	All samples in SDG 2016927	UJ (all non-detects)	P

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
06/11/20 (11JUN02)	Bromomethane Naphthalene	34.8 31.1	All samples in SDG 2016927	UJ (all non-detects) UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
06/11/20 (11JUN03)	Methyl iodide	44.0	All samples in SDG 2016927	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-2-061020 was identified as a trip blank. No contaminants were found.

Sample EB-2-061020 was identified as an equipment 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

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

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 ICV %D and continuing calibration %D, data were qualified as estimated in seven samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2016927

Sample	Compound	Flag	A or P	Reason
TB-2-061020 MW-26-1 MW-26-2 MW-18-5 MW-18-3 MW-18-4 EB-2-061020	Diethyl ether	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-2-061020 MW-26-1 MW-26-2 MW-18-5 MW-18-3 MW-18-4 EB-2-061020	Bromomethane Naphthalene Methyl iodide	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2016927

No Sample Data Qualified in this SDG

LDC #: 48646B1a

SDG #: 2016927

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/1/20

Page: 1 of 1

Reviewer: V

2nd Reviewer:

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 MW	RSD ≤ 30%. r² krf ≤ 30%
IV.	Continuing calibration	MW	%D ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=1
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
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; 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-2-061020	2016927-01	Water	06/10/20
2	MW-26-1	2016927-02	Water	06/10/20
3	MW-26-2	2016927-03	Water	06/10/20
4	MW-18-5	2016927-04	Water	06/10/20
5	MW-18-3	2016927-05	Water	06/10/20
6	MW-18-4	2016927-06	Water	06/10/20
7	EB-2-061020	2016927-07	Water	06/10/20
8				
9				

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.

LDC #: ~~40646B9~~

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer:

METHOD: GC/MS VOA (EPA ~~SW 846~~ Method ~~8260B~~) 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y (N) N/A Were all %D within the validation criteria of ≤~~20 %D?~~ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Associated Samples	Qualifications
	6/10/20	10JUN24	Diethyl ether	24.0	~~All~~ (ND)	J/UJ/P

ICV.wpd

LDC #: ~~48646B~~19

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer:

METHOD: GC/MS VOA (EPA ~~SW 846~~ Method ~~8260B~~) 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y (N) N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y (N) N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/11/20	IN UNO2	B	34.8		All (ND)	J/UJ/R
			MMM	31.1			
							↓
	6/11/20	IN UNO3	Methyl iodide	44.0		All (ND)	↓

CONCAL 1SB

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Semivolatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016927

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18-4	2016927-06	Water	06/10/20

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:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270C

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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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, percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs) with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
06/15/20	Benzidine	56.06873	All samples in SDG 2016927	UJ (all non-detects)	A
	Endosulfan I	18.33888		UJ (all non-detects)	
	2-Naphthylamine	49.74228		UJ (all non-detects)	
	cis-Chlordane	32.46043		UJ (all non-detects)	
	Famphur	40.31817		UJ (all non-detects)	
	1-Naphthylamine	37.88838		UJ (all non-detects)	

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 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
06/16/20 (16JUN003)	Benzidine	25.2	All samples in SDG 2016927	Benzidine	UJ (all non-detects)	A
	2,2'-Oxybis(1-chloropropane)	27.2		2,2'-Oxybis(1-chloropropane)	UJ (all non-detects)	
	3,3'-Dichlorobenzidine	25.9		3,3'-Dichlorobenzidine	UJ (all non-detects)	
	Heptachlor	20.8		Heptachlor	UJ (all non-detects)	
	2-Naphthylamine	33.4		2-Naphthylamine	UJ (all non-detects)	

Date	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
06/16/20 (16JUN004)	Aramite	20.9	All samples in SDG 2016927	Aramite	UJ (all non-detects)	A
	p-(Dimethylamino)azobenzene	23.9		p-(Dimethylamino)azobenzene	UJ (all non-detects)	
	Disulfoton	22.6		Disulfoton	UJ (all non-detects)	
	Ethyl methacrylate	31.2		Ethyl methacrylate	UJ (all non-detects)	
	Ethyl Parathion	23.9		Ethyl Parathion	UJ (all non-detects)	
	Methyl parathion	26.3		Methyl parathion	UJ (all non-detects)	
	1,4-Naphthoquinone	33.7		1,4-Naphthoquinone	UJ (all non-detects)	
	Hexachlorophene	36.1		Hexachlorophene	UJ (all non-detects)	
	PCB-1260	22.7		PCB-1260	UJ (all non-detects)	
				PCB-1016	UJ (all non-detects)	
				PCB-1221	UJ (all non-detects)	
				PCB-1232	UJ (all non-detects)	
				PCB-1242	UJ (all non-detects)	
				PCB-1248	UJ (all non-detects)	
				PCB-1254	UJ (all non-detects)	
				PCB-1262	UJ (all non-detects)	
				PCB-1268	UJ (all non-detects)	
				Total PCBs	UJ (all non-detects)	

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

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 initial calibration %RSD and ICV %D, data were qualified as estimated in one sample.

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

NASA JPL, 2Q2020
Semivolatiles - Data Qualification Summary - SDG 2016927

Sample	Compound	Flag	A or P	Reason
MW-18-4	Benzidine	UJ (all non-detects)	A	Initial calibration (%RSD)
	Endosulfan I	UJ (all non-detects)		
	2-Naphthylamine	UJ (all non-detects)		
	cis-Chlordane	UJ (all non-detects)		
	Famphur	UJ (all non-detects)		
	1-Naphthylamine	UJ (all non-detects)		
MW-18-4	Benzidine	UJ (all non-detects)		Initial calibration verification (%D)
	2,2'-Oxybis(1-chloropropane)	UJ (all non-detects)		
	3,3'-Dichlorobenzidine	UJ (all non-detects)		
	Heptachlor	UJ (all non-detects)		
	2-Naphthylamine	UJ (all non-detects)		
	Aramite	UJ (all non-detects)		
	p-(Dimethylamino)azobenzene	UJ (all non-detects)		
	Disulfoton	UJ (all non-detects)		
	Ethyl methacrylate	UJ (all non-detects)		
	Ethyl Parathion	UJ (all non-detects)		
	Methyl parathion	UJ (all non-detects)		
	1,4-Naphthoquinone	UJ (all non-detects)		
	Hexachlorophene	UJ (all non-detects)		
	PCB-1260	UJ (all non-detects)		
	PCB-1016	UJ (all non-detects)		
	PCB-1221	UJ (all non-detects)		
	PCB-1232	UJ (all non-detects)		
	PCB-1242	UJ (all non-detects)		
	PCB-1248	UJ (all non-detects)		
	PCB-1254	UJ (all non-detects)		
	PCB-1262	UJ (all non-detects)		
	PCB-1268	UJ (all non-detects)		
	Total PCBs	UJ (all non-detects)		

NASA JPL, 2Q2020
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 2016927

No Sample Data Qualified in this SDG

LDC #: 48646B2a

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/1/20

SDG #: 2016927

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer:

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

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/SW	RSD≤15/30%. r² ICV≤20%
IV.	Continuing calibration	A/SW	CCV≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	
X.	Field duplicates	N	
XI.	Internal standards	A/SW	
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	MW-18-4	2016927-06	Water	06/10/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	CC. Dimethylphthalate	EEE. Bis(2-ethylhexyl)phthalate	GGGG. C30-Hopane	I1. Methyl methanesulfonate
B. Bis (2-chloroethyl) ether	DD. Acenaphthylene	FFF. Di-n-octylphthalate	HHHH. 1-Methylphenanthrene	J1. Ethyl methanesulfonate
C. 2-Chlorophenol	EE. 2,6-Dinitrotoluene	GGG. Benzo(b)fluoranthene	IIII. 1,4-Dioxane	K1. o,o',o"-Triethylphosphorothioate
D. 1,3-Dichlorobenzene	FF. 3-Nitroaniline	HHH. Benzo(k)fluoranthene	JJJJ. Acetophenone	L1. n-Phenylene diamine
E. 1,4-Dichlorobenzene	GG. Acenaphthene	III. Benzo(a)pyrene	KKKK. Atrazine	M1. 1,4-Naphthoquinone
F. 1,2-Dichlorobenzene	HH. 2,4-Dinitrophenol	JJJ. Indeno(1,2,3-cd)pyrene	LLLL. Benzaldehyde	N1. N-Nitro-o-toluidine
G. 2-Methylphenol	II. 4-Nitrophenol	KKK. Dibenz(a,h)anthracene	MMMM. Caprolactam	O1. 1,3,5-Trinitrobenzene
H. 2,2'-Oxybis(1-chloropropane)	JJ. Dibenzofuran	LLL. Benzo(g,h,i)perylene	NNNN. 2,6-Dichlorophenol	P1. Pentachlorobenzene
I. 4-Methylphenol	KK. 2,4-Dinitrotoluene	MMM. Bis(2-Chloroisopropyl)ether	OOOO. 1,2-Diphenylhydrazine	Q1. 4-Aminobiphenyl
J. N-Nitroso-di-n-propylamine	LL. Diethylphthalate	NNN. Aniline	PPPP. 3-Methylphenol	R1. 2-Naphthylamine
K. Hexachloroethane	MM. 4-Chlorophenyl-phenyl ether	OOO. N-Nitrosodimethylamine	QQQQ. 3&4-Methylphenol	S1. Triphenylene
L. Nitrobenzene	NN. Fluorene	PPP. Benzoic Acid	RRRR. 4-Dimethyldibenzothiophene (4MDT)	T1. Octachlorostyrene
M. Isophorone	OO. 4-Nitroaniline	QQQ. Benzyl alcohol	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	U1. Famphur
N. 2-Nitrophenol	PP. 4,6-Dinitro-2-methylphenol	RRR. Pyridine	TTTT. 1-Methyldibenzothiophene (1MDT)	V1. 1,4-phenylenediamine
O. 2,4-Dimethylphenol	QQ. N-Nitrosodiphenylamine	SSS. Benzidine	UUUU.. 2,3,4,6-Tetrachlorophenol	W1. Methapyrilene
P. Bis(2-chloroethoxy)methane	RR. 4-Bromophenyl-phenylether	TTT. 1-Methylnaphthalene	VVVV. 1,2,4,5-Tetrachlorobenzene	X1. Pentachloroethane
Q. 2,4-Dichlorophenol	SS. Hexachlorobenzene	UUU.Benzo(b)thiophene	WWWW.. 2-Picoline	Y1. 3,3'-Dimethylbenzidine
R. 1,2,4-Trichlorobenzene	TT. Pentachlorophenol	VVV.Benzonaphthothiophene	XXXX. 3-Methylcholanthrene	Z1. o-Toluidine
S. Naphthalene	UU. Phenanthrene	WWW.Benzo(e)pyrene	YYYY. a,a-Dimethylphenethylamine	A2. 1-Naphthylamine
T. 4-Chloroaniline	VV. Anthracene	XXX. 2,6-Dimethylnaphthalene	ZZZZ. Hexachloropropene	B2. 4-Aminobiphenyl
U. Hexachlorobutadiene	WW. Carbazole	YYY. 2,3,5-Trimethylnaphthalene	A1. N-Nitrosodiethylamine	C2. 4-Nitroquinoline-1-oxide
V. 4-Chloro-3-methylphenol	XX. Di-n-butylphthalate	ZZZ. Perylene	B1. N-Nitrosodi-n-butylamine	D2. Hexachloropene
W. 2-Methylnaphthalene	YY. Fluoranthene	AAAA. Dibenzothiophene	C1. N-Nitrosomethylethylamine	E2. Bis (2-chloro-1-methylethyl) ether
X. Hexachlorocyclopentadiene	ZZ. Pyrene	BBBB. Benzo(a)fluoranthene	D1. N-Nitrosomorpholine	F2. Bifenthrin
Y. 2,4,6-Trichlorophenol	AAA. Butylbenzylphthalate	CCCC. Benzo(b)fluorene	E1. N-Nitrosopyrrolidine	G2. Cyfluthrin
Z. 2,4,5-Trichlorophenol	BBB. 3,3'-Dichlorobenzidine	DDDD. cis/trans-Decalin	F1. Phenacetin	H2. Cypermethrin
AA. 2-Chloronaphthalene	CCC. Benzo(a)anthracene	EEEE. 1,1'-Biphenyl	G1. 2-Acetylaminofluorene	I2. Permethrin (cis/trans)
BB. 2-Nitroaniline	DDD. Chrysene	FFFF. Retene	H1. Pronamide	J2. 5-Nitro-o-toluidine

LDC #: 48646B2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: EF
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory conduct an acceptable 5 point calibration prior to sample analysis?

Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?

Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____

Y N N/A Did the initial calibration meet the acceptance criteria?

Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0/15%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/15/20	ICAL	SSS	56.06873		All (ND)	J/UJ/A
			Endosulfan I	18.33888			
			R1	49.74228			
			cis-Chlordane	32.46043			
			U1	40.31817			
			A2	37.88838			

LDC #: 48646B2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer:
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?
Y N N/A Were all %D within the validation criteria of ≤30 %D ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/16/20	16JUN003	SSS	25.2	All (ND)	J/UJ/A
			H	27.2		
			BBB	25.9		
			Heptachlor	20.8		
			R1	33.4		
	6/16/20	16JUN004	Aramite	20.9		
			p-(Dimethylamino)azobenzene	23.9		
			Disilfoton	22.6		
			Ethyl methacrylate	31.2		
			Ethyl Parathion	23.9		
			Methyl parathion	26.3		
			M1	33.7		
			Hexachlorophene	36.1		
			PCB-1260	27.7		
						(qual: PCB-1016, 1221,1232,1242,
						1248,1254,1260,1262,1268, and
						Total PCBS)

LDC #: 48646B2a

VALIDATION FINDINGS WORKSHEET
Internal Standards

Page: 1 of 1
Reviewer: Q
2nd Reviewer: ________

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all internal standard area counts within -50 to +100 of the associated calibration standard?

(Y) N N/A Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

#	Date	Sample ID	Internal Standard	Area (Limits)	RT (Limits)	Qualifications
		B080194-BS1	PRY	34874 (73853-295412)		J/UJ/A

(DCB) = 1,4-Dichlorobenzene-d4
(NPT) = Naphthalene-d8
(ANT) = Acenaphthene-d10
(PHN) = Phenanthrene-d10
(CRY) = Chrysene-d12
(PRY) = Perylene-d12

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Metals

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016927

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-26-1	2016927-02	Water	06/10/20
MW-26-2	2016927-03	Water	06/10/20
MW-18-5	2016927-04	Water	06/10/20
MW-18-3	2016927-05	Water	06/10/20
MW-18-4	2016927-06	Water	06/10/20
EB-2-061020	2016927-07	Water	06/10/20
EB-2-061020MS	2016927-07MS	Water	06/10/20
EB-2-061020MSD	2016927-07MSD	Water	06/10/20
EB-2-061020DUP	2016927-07DUP	Water	06/10/20

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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits with the following exceptions:

Date	Lab. Reference/ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
6/12/20	CCV6 (13:20)	Lead	112 (90-110)	MW-26-1	NA	-

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. 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	Arsenic	1.0350 ug/L	MW-26-1 MW-26-2 MW-18-5 MW-18-3 MW-18-4 EB-2-061020

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-26-2	Arsenic	2.1 mg/Kg	2.1U mg/Kg
MW-18-5	Arsenic	3.4 mg/Kg	3.4U mg/Kg
MW-18-3	Arsenic	1.4 mg/Kg	1.4U mg/Kg
MW-18-4	Arsenic	2.1 mg/Kg	2.1U mg/Kg

VI. Field Blanks

Sample EB-2-061020 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration
EB-2-061020	06/10/20	Calcium Sodium	0.037 mg/L 0.073 mg/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 methods. 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 methods. No results were rejected in this SDG.

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, 2Q2020
Metals - Data Qualification Summary - SDG 2016927

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2016927

Sample	Analyte	Modified Final Concentration	A or P
MW-26-2	Arsenic	2.1U mg/Kg	A
MW-18-5	Arsenic	3.4U mg/Kg	A
MW-18-3	Arsenic	1.4U mg/Kg	A
MW-18-4	Arsenic	2.1U mg/Kg	A

LDC #: 48646B4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/3/2020
SDG #: 2016927 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DJM
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	SW	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB = 6
VII.	Matrix Spike/Matrix Spike Duplicates	A	
VIII.	Duplicate sample analysis	A	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	N	NOT Reviewed
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-26-1	2016927-02	Water	06/10/20
2	MW-26-2	2016927-03	Water	06/10/20
3	MW-18-5	2016927-04	Water	06/10/20
4	MW-18-3	2016927-05	Water	06/10/20
5	MW-18-4	2016927-06	Water	06/10/20
6	EB-2-061020	2016927-07	Water	06/10/20
7	EB-2-061020MS	2016927-07MS	Water	06/10/20
8	EB-2-061020MSD	2016927-07MSD	Water	06/10/20
9	EB-2-061020DUP	2016927-07DUP	Water	06/10/20
10				
11				
12				
13				

Notes:

LDC #: 48644B4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer: ________

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-6	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
7-9	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, B, Cd, [✓ Ca], Cr, Co, Cu, [✓ Fe], Pb, Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
ICP-MS	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, ~~Fe~~, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn DTM
GFAA		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Comments: Mercury by CVAA if performed

LDC #: 48646B4a
SDG #: 2016927

VALIDATION FINDINGS WORKSHEET
Calibration

Reviewer: DTM
2nd Reviewer: _____

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

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were all instruments calibrated daily, each set-up time, and were the proper number of standards used?

Y (N) N/A Were all initial and continuing calibration verification percent recoveries (%R) within the control limits of 90-110% for all analytes except mercury (80-120%) and cyanide (85-115%)?

LEVEL IV ONLY:

Y N (N/A) Was a midrange cyanide standard distilled?

Y N (N/A) Are all correlation coefficients ≥0.995?

Y N (N/A) Were recalculated results acceptable? See Level IV Initial and Continuing Calibration Recalculation Worksheet for recalculations.

#	Date	Calibration ID	Analyte	%R	Associated Samples	Qualification of Data
	6/12/20 (13:20)	CCV6	Pb	112	1	J/A(ND)

Comments: _____

LDC #: 48646B4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010/6020/7000)
Soil preparation factor applied:
Sample Concentration units, unless otherwise noted: mg/Kg
Associated Samples: 1-6

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**2**	3	4	5							
As			1.0350	5.175	2.1	3.4	1.4	2.1							

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 #: 48646B4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 6/10/2020
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: X Flag

Analyte	Blank ID	Blank ID	Sample Identification											
	6		Action Limit	NO QUAL										
Ca	0.037													
Na	0.073													

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2016927

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-26-1	2016927-02	Water	06/10/20
MW-26-2	2016927-03	Water	06/10/20
MW-18-5	2016927-04	Water	06/10/20
MW-18-3	2016927-05	Water	06/10/20
MW-18-4	2016927-06	Water	06/10/20
EB-2-061020	2016927-07	Water	06/10/20
MW-26-1MS	2016927-02MS	Water	06/10/20
MW-26-1MSD	2016927-02MSD	Water	06/10/20
MW-26-1DUP	2016927-02DUP	Water	06/10/20
MW-18-5MS	2016927-04MS	Water	06/10/20
MW-18-5MSD	2016927-04MSD	Water	06/10/20
MW-18-5DUP	2016927-04DUP	Water	06/10/20

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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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
All samples in SDG 2016927	pH	6 days	2 days	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	0.043 ug/L	All samples in SDG

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 than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW-26-2	Hexavalent chromium	0.00020 ug/L	0.00020U ug/L
MW-18-5	Hexavalent chromium	0.000047 ug/L	0.000047U ug/L
EB-2-061020	Hexavalent chromium	0.000062 ug/L	0.000062U ug/L

V. Field Blanks

Sample EB-2-061020 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-2-061020	Total dissolved solids Hexavalent chromium pH	3.3 mg/L 0.000062 mg/L 4.44 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 times, data were qualified as estimated in six samples.

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

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

NASA JPL, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2016927

Sample	Analyte	Flag	A or P	Reason
MW-26-1 MW-26-2 MW-18-5 MW-18-3 MW-18-4 EB-2-061020	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2016927

Sample	Analyte	Modified Final Concentration	A or P
MW-26-2	Hexavalent chromium	0.00020U ug/L	A
MW-18-5	Hexavalent chromium	0.000047U ug/L	A
EB-2-061020	Hexavalent chromium	0.000062U ug/L	A

LDC #: 48646B6 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/4/2020
SDG #: 2016927 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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=6
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	A	
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-26-1	2016927-02	Water	06/10/20
2	MW-26-2	2016927-03	Water	06/10/20
3	MW-18-5	2016927-04	Water	06/10/20
4	MW-18-3	2016927-05	Water	06/10/20
5	MW-18-4	2016927-06	Water	06/10/20
6	EB-2-061020	2016927-07	Water	06/10/20
7	MW-26-1MS	2016927-02MS	Water	06/10/20
8	MW-26-1MSD	2016927-02MSD	Water	06/10/20
9	MW-26-1DUP	2016927-02DUP	Water	06/10/20
10	MW-18-5MS	2016927-04MS	Water	06/10/20
11	MW-18-5MSD	2016927-04MSD	Water	06/10/20
12	MW-18-5DUP	2016927-04DUP	Water	06/10/20
13				
14				
15				

Notes:

LDC #: 49604B6

VALIDATION FINDINGS WORKSHEET

Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1 - 6	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 7-8	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ [✓ ClO_4] ~~NO_3-N~~ DTM [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 9	pH [✓ TDS] Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ [✓ ClO_4] ~~NO_3-N~~ [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 10-12	pH TDS [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 [✓ NO_3-N]
	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:

LDC #: 48646B6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: DTM
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	150.1						
Parameters:	pH						
Technical holding time:	48hrs						
Sample ID	**Sampling date**	**Analysis date**	**Total Time**	**Qualifier**	**Analysis date**	**Total Time**	**Qualifier**
ALL	6/10/2020	6/16/2020	6days	J/R/P (det)			

LDC #: 48646B6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** ALL

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (ug/L)		2	3	6							
Cr6		0.043	0.000215	0.00020	0.000047	0.000062							

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 #: 48646B6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:**
Sampling date: 6/10/2020 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: X flag

Analyte	Blank ID	Action Limit	Sample Identification							
	6		No Qualifiers							
TDS	3.3									
Cr6	0.000062									
pH	4.44									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

NASA JPL, 2Q2020 - LDC# 48646B

SDG: 2016927

Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-2-061020	2016927-07	pH	6/16/2020	4.44	Y	y	v	J	0.05	0.05	pH Units
MW-18-3	2016927-05	pH	6/16/2020	7.92	Y	y	v	J	0.05	0.05	pH Units
MW-18-4	2016927-06	pH	6/16/2020	8.01	Y	y	v	J	0.05	0.05	pH Units
MW-18-5	2016927-04	pH	6/16/2020	9.02	Y	y	v	J	0.05	0.05	pH Units
MW-26-1	2016927-02	pH	6/16/2020	7.56	Y	y	v	J	0.05	0.05	pH Units
MW-26-2	2016927-03	pH	6/16/2020	8	Y	y	v	J	0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-2-061020	2016927-07	Total Dissolved Solids @ 180 C	6/12/2020	3.3	Y	y	v j		6.7	3.3	mg/L
MW-18-3	2016927-05	Total Dissolved Solids @ 180 C	6/12/2020	330	Y	y	v		20	10	mg/L
MW-18-4	2016927-06	Total Dissolved Solids @ 180 C	6/12/2020	260	Y	y	v		20	10	mg/L
MW-18-5	2016927-04	Total Dissolved Solids @ 180 C	6/12/2020	180	Y	y	v		10	5.0	mg/L
MW-26-1	2016927-02	Total Dissolved Solids @ 180 C	6/12/2020	630	Y	y	v		33	17	mg/L
MW-26-2	2016927-03	Total Dissolved Solids @ 180 C	6/12/2020	460	Y	y	v		33	17	mg/L

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-2-061020	2016927-07	Total Recoverable Iron	6/17/2020	50	Y	n	u		50	30	ug/L
EB-2-061020	2016927-07	Total Recoverable Potassium	6/17/2020	1	Y	n	u		1.0	0.10	mg/L
EB-2-061020	2016927-07	Total Recoverable Sodium	6/17/2020	0.073	Y	y	v j		0.50	0.051	mg/L
EB-2-061020	2016927-07	Total Recoverable Magnesium	6/17/2020	0.05	Y	n	u		0.050	0.019	mg/L
EB-2-061020	2016927-07	Total Recoverable Calcium	6/17/2020	0.037	Y	y	v j		0.10	0.014	mg/L
MW-18-3	2016927-05	Total Recoverable Magnesium	6/17/2020	16	Y	y	v		0.050	0.019	mg/L
MW-18-3	2016927-05	Total Recoverable Sodium	6/17/2020	22	Y	y	v		0.50	0.051	mg/L

SDG: 2016927

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-3	2016927-05	Total Recoverable Potassium	6/17/2020	2.6	Y	y	v		1.0	0.10	mg/L
MW-18-3	2016927-05	Total Recoverable Calcium	6/17/2020	60	Y	y	v		0.10	0.014	mg/L
MW-18-3	2016927-05	Total Recoverable Iron	6/17/2020	48	Y	y	v j		50	30	ug/L
MW-18-4	2016927-06	Total Recoverable Iron	6/17/2020	74	Y	y	v		50	30	ug/L
MW-18-4	2016927-06	Total Recoverable Potassium	6/17/2020	1.2	Y	y	v		1.0	0.10	mg/L
MW-18-4	2016927-06	Total Recoverable Calcium	6/17/2020	38	Y	y	v		0.10	0.014	mg/L
MW-18-4	2016927-06	Total Recoverable Magnesium	6/17/2020	10	Y	y	v		0.050	0.019	mg/L
MW-18-4	2016927-06	Total Recoverable Sodium	6/17/2020	29	Y	y	v		0.50	0.051	mg/L
MW-18-5	2016927-04	Total Recoverable Potassium	6/17/2020	1.3	Y	y	v		1.0	0.10	mg/L
MW-18-5	2016927-04	Total Recoverable Calcium	6/17/2020	4.9	Y	y	v		0.10	0.014	mg/L
MW-18-5	2016927-04	Total Recoverable Sodium	6/17/2020	56	Y	y	v		0.50	0.051	mg/L
MW-18-5	2016927-04	Total Recoverable Iron	6/17/2020	38	Y	y	v j		50	30	ug/L
MW-18-5	2016927-04	Total Recoverable Magnesium	6/17/2020	2.8	Y	y	v		0.050	0.019	mg/L
MW-26-1	2016927-02	Total Recoverable Sodium	6/17/2020	34	Y	y	v		0.50	0.051	mg/L
MW-26-1	2016927-02	Total Recoverable Magnesium	6/17/2020	38	Y	y	v		0.050	0.019	mg/L
MW-26-1	2016927-02	Total Recoverable Calcium	6/17/2020	110	Y	y	v		0.10	0.014	mg/L
MW-26-1	2016927-02	Total Recoverable Iron	6/17/2020	180	Y	y	v		50	30	ug/L
MW-26-1	2016927-02	Total Recoverable Potassium	6/17/2020	3	Y	y	v		1.0	0.10	mg/L
MW-26-2	2016927-03	Total Recoverable Calcium	6/17/2020	62	Y	y	v		0.10	0.014	mg/L
MW-26-2	2016927-03	Total Recoverable Magnesium	6/17/2020	29	Y	y	v		0.050	0.019	mg/L
MW-26-2	2016927-03	Total Recoverable Sodium	6/17/2020	33	Y	y	v		0.50	0.051	mg/L
MW-26-2	2016927-03	Total Recoverable Potassium	6/17/2020	2.5	Y	y	v		1.0	0.10	mg/L
MW-26-2	2016927-03	Total Recoverable Iron	6/17/2020	240	Y	y	v		50	30	ug/L

SDG: 2016927

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-2-061020	2016927-07	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	ug/L
EB-2-061020	2016927-07	Total Recoverable Chromium	6/18/2020	3	Y	n	u		3.0	0.50	ug/L
EB-2-061020	2016927-07	Total Recoverable Arsenic	6/18/2020	2	Y	n	u		2.0	0.70	ug/L
MW-18-3	2016927-05	Total Recoverable Arsenic	6/17/2020	1.4	Y	y	v j	U	2.0	0.70	ug/L
MW-18-3	2016927-05	Total Recoverable Chromium	6/17/2020	1.2	Y	y	v j		3.0	0.50	ug/L
MW-18-3	2016927-05	Total Recoverable Lead	6/17/2020	1	Y	n	u		1.0	0.10	ug/L
MW-18-4	2016927-06	Total Recoverable Lead	6/17/2020	1	Y	n	u		1.0	0.10	ug/L
MW-18-4	2016927-06	Total Recoverable Arsenic	6/17/2020	2.1	Y	y	v	U	2.0	0.70	ug/L
MW-18-4	2016927-06	Total Recoverable Chromium	6/17/2020	2.4	Y	y	v j		3.0	0.50	ug/L
MW-18-5	2016927-04	Total Recoverable Lead	6/17/2020	1	Y	n	u		1.0	0.10	ug/L
MW-18-5	2016927-04	Total Recoverable Chromium	6/17/2020	3	Y	n	u		3.0	0.50	ug/L
MW-18-5	2016927-04	Total Recoverable Arsenic	6/17/2020	3.4	Y	y	v	U	2.0	0.70	ug/L
MW-26-1	2016927-02	Total Recoverable Arsenic	6/12/2020	2	Y	n	u		2.0	0.70	ug/L
MW-26-1	2016927-02	Total Recoverable Chromium	6/12/2020	3	Y	n	u		3.0	0.50	ug/L
MW-26-1	2016927-02	Total Recoverable Lead	6/12/2020	1	Y	n	u		1.0	0.10	ug/L
MW-26-2	2016927-03	Total Recoverable Lead	6/17/2020	1	Y	n	u		1.0	0.10	ug/L
MW-26-2	2016927-03	Total Recoverable Chromium	6/17/2020	3	Y	n	u		3.0	0.50	ug/L
MW-26-2	2016927-03	Total Recoverable Arsenic	6/17/2020	2.1	Y	y	v	U	2.0	0.70	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
EB-2-061020	2016927-07	Hexavalent Chromium	6/11/2020	######	Y	y	v j	U	0.0002	0.00003	mg/L
MW-18-3	2016927-05	Hexavalent Chromium	6/11/2020	0.0016	Y	y	v		0.0002	0.00003	mg/L
MW-18-4	2016927-06	Hexavalent Chromium	6/11/2020	0.0028	Y	y	v		0.0002	0.00003	mg/L
MW-18-5	2016927-04	Hexavalent Chromium	6/11/2020	######	Y	y	v j	U	0.0002	0.00003	mg/L

SDG: 2016927

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-26-1	2016927-02	Hexavalent Chromium	6/11/2020	0.00034	Y	y	v		0.0002	0.00003	mg/L
MW-26-2	2016927-03	Hexavalent Chromium	6/11/2020	0.0002	Y	y	v	U	0.0002	0.00003	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**
EB-2-061020	2016927-07	Sulfate	6/11/2020	1	Y	n	u		1.0	0.14	mg/L
EB-2-061020	2016927-07	Nitrate as N	6/11/2020	0.1	Y	n	u		0.10	0.024	mg/L
EB-2-061020	2016927-07	Chloride	6/11/2020	0.5	Y	n	u		0.50	0.13	mg/L
MW-18-3	2016927-05	Sulfate	6/11/2020	36	Y	y	v		1.0	0.14	mg/L
MW-18-3	2016927-05	Nitrate as N	6/11/2020	0.82	Y	y	v		0.10	0.024	mg/L
MW-18-3	2016927-05	Chloride	6/11/2020	17	Y	y	v		0.50	0.13	mg/L
MW-18-4	2016927-06	Nitrate as N	6/11/2020	1.2	Y	y	v		0.10	0.024	mg/L
MW-18-4	2016927-06	Chloride	6/11/2020	10	Y	y	v		0.50	0.13	mg/L
MW-18-4	2016927-06	Sulfate	6/11/2020	23	Y	y	v		1.0	0.14	mg/L
MW-18-5	2016927-04	Sulfate	6/11/2020	2.2	Y	y	v		1.0	0.14	mg/L
MW-18-5	2016927-04	Nitrate as N	6/11/2020	0.03	Y	y	v j		0.10	0.024	mg/L
MW-18-5	2016927-04	Chloride	6/11/2020	9.2	Y	y	v		0.50	0.13	mg/L
MW-26-1	2016927-02	Chloride	6/11/2020	88	Y	y	v		0.50	0.13	mg/L
MW-26-1	2016927-02	Sulfate	6/11/2020	100	Y	y	v		1.0	0.14	mg/L
MW-26-1	2016927-02	Nitrate as N	6/11/2020	5.6	Y	y	v		0.10	0.024	mg/L
MW-26-2	2016927-03	Chloride	6/11/2020	61	Y	y	v		0.50	0.13	mg/L
MW-26-2	2016927-03	Nitrate as N	6/11/2020	6.2	Y	y	v		0.10	0.024	mg/L
MW-26-2	2016927-03	Sulfate	6/11/2020	76	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**

SDG: 2016927

Analytical Method EPA-314.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-2-061020	2016927-07	Perchlorate	6/17/2020	4	Y	n	u		4.0	0.76	ug/L
MW-18-3	2016927-05	Perchlorate	6/17/2020	1.4	Y	y	v j		4.0	0.76	ug/L
MW-18-4	2016927-06	Perchlorate	6/17/2020	16	Y	y	v		4.0	0.76	ug/L
MW-18-5	2016927-04	Perchlorate	6/17/2020	4	Y	n	u		4.0	0.76	ug/L
MW-26-1	2016927-02	Perchlorate	6/17/2020	2.1	Y	y	v j		4.0	0.81	ug/L
MW-26-2	2016927-03	Perchlorate	6/17/2020	3.5	Y	y	v j		4.0	0.76	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
EB-2-061020	2016927-07	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-18-3	2016927-05	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-18-4	2016927-06	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-18-5	2016927-04	Nitrite as N	6/11/2020	0.019	Y	y	v j		0.050	0.010	mg/L
MW-26-1	2016927-02	Nitrite as N	6/11/2020	0.097	Y	y	v		0.050	0.010	mg/L
MW-26-2	2016927-03	Nitrite as N	6/11/2020	0.08	Y	y	v		0.050	0.010	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
EB-2-061020	2016927-07	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
EB-2-061020	2016927-07	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-2-061020	2016927-07	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
EB-2-061020	2016927-07	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
EB-2-061020	2016927-07	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
EB-2-061020	2016927-07	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
EB-2-061020	2016927-07	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-2-061020	2016927-07	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	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-2-061020	2016927-07	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
EB-2-061020	2016927-07	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
EB-2-061020	2016927-07	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-2-061020	2016927-07	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-2-061020	2016927-07	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
EB-2-061020	2016927-07	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
EB-2-061020	2016927-07	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
EB-2-061020	2016927-07	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
EB-2-061020	2016927-07	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
EB-2-061020	2016927-07	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
EB-2-061020	2016927-07	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
EB-2-061020	2016927-07	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
EB-2-061020	2016927-07	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-2-061020	2016927-07	Toluene-d8 (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
EB-2-061020	2016927-07	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
EB-2-061020	2016927-07	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
EB-2-061020	2016927-07	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-2-061020	2016927-07	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-2-061020	2016927-07	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
EB-2-061020	2016927-07	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
EB-2-061020	2016927-07	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
EB-2-061020	2016927-07	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
EB-2-061020	2016927-07	Methyl iodide	6/11/2020	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
EB-2-061020	2016927-07	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
EB-2-061020	2016927-07	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
EB-2-061020	2016927-07	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-2-061020	2016927-07	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-2-061020	2016927-07	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-2-061020	2016927-07	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-2-061020	2016927-07	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-2-061020	2016927-07	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-2-061020	2016927-07	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-2-061020	2016927-07	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-2-061020	2016927-07	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-2-061020	2016927-07	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-2-061020	2016927-07	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-2-061020	2016927-07	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-2-061020	2016927-07	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-2-061020	2016927-07	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
EB-2-061020	2016927-07	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-2-061020	2016927-07	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-2-061020	2016927-07	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-2-061020	2016927-07	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-2-061020	2016927-07	trans-1,3-Dichloropropene	6/11/2020	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
EB-2-061020	2016927-07	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-2-061020	2016927-07	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-2-061020	2016927-07	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-2-061020	2016927-07	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-2-061020	2016927-07	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-2-061020	2016927-07	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
EB-2-061020	2016927-07	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-2-061020	2016927-07	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-2-061020	2016927-07	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-2-061020	2016927-07	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-2-061020	2016927-07	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-2-061020	2016927-07	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-2-061020	2016927-07	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-2-061020	2016927-07	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-2-061020	2016927-07	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-2-061020	2016927-07	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-2-061020	2016927-07	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-2-061020	2016927-07	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-2-061020	2016927-07	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
EB-2-061020	2016927-07	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-2-061020	2016927-07	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
EB-2-061020	2016927-07	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-2-061020	2016927-07	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-2-061020	2016927-07	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-2-061020	2016927-07	Dibromochloromethane	6/11/2020	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
EB-2-061020	2016927-07	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-2-061020	2016927-07	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-2-061020	2016927-07	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-2-061020	2016927-07	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-2-061020	2016927-07	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-3	2016927-05	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-3	2016927-05	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-18-3	2016927-05	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-3	2016927-05	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-18-3	2016927-05	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-18-3	2016927-05	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-18-3	2016927-05	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-18-3	2016927-05	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2016927-05	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-18-3	2016927-05	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-3	2016927-05	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-18-3	2016927-05	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-3	2016927-05	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2016927-05	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2016927-05	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2016927-05	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-18-3	2016927-05	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2016927-05	1,1,2-Trichloroethane	6/11/2020	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-18-3	2016927-05	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2016927-05	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2016927-05	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-3	2016927-05	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2016927-05	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-18-3	2016927-05	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2016927-05	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-18-3	2016927-05	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-18-3	2016927-05	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-18-3	2016927-05	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-18-3	2016927-05	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-18-3	2016927-05	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
MW-18-3	2016927-05	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-18-3	2016927-05	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-18-3	2016927-05	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-3	2016927-05	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-18-3	2016927-05	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-18-3	2016927-05	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-3	2016927-05	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-3	2016927-05	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-18-3	2016927-05	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-18-3	2016927-05	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-18-3	2016927-05	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-18-3	2016927-05	Toluene-d8 (Surrogate)	6/11/2020	9.9	Y	y	v s				ug/L
MW-18-3	2016927-05	Chlorobenzene	6/11/2020	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-18-3	2016927-05	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-3	2016927-05	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2016927-05	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-3	2016927-05	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-3	2016927-05	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
MW-18-3	2016927-05	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-3	2016927-05	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-3	2016927-05	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2016927-05	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-3	2016927-05	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2016927-05	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2016927-05	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-3	2016927-05	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2016927-05	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-3	2016927-05	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-18-3	2016927-05	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-18-3	2016927-05	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-3	2016927-05	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-3	2016927-05	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2016927-05	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-3	2016927-05	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-3	2016927-05	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2016927-05	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-3	2016927-05	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2016927-05	Tetrachloroethene	6/11/2020	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-18-3	2016927-05	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2016927-05	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2016927-05	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-3	2016927-05	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-3	2016927-05	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-18-3	2016927-05	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2016927-05	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-3	2016927-05	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2016927-05	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2016927-05	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2016927-05	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2016927-05	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-3	2016927-05	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2016927-05	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2016927-05	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-3	2016927-05	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-3	2016927-05	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-3	2016927-05	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-3	2016927-05	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-3	2016927-05	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-3	2016927-05	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-3	2016927-05	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2016927-06	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2016927-06	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-4	2016927-06	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	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	2016927-06	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2016927-06	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-4	2016927-06	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-4	2016927-06	Carbon tetrachloride	6/11/2020	1.1	Y	y	v		0.50	0.17	ug/L
MW-18-4	2016927-06	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2016927-06	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2016927-06	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2016927-06	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-4	2016927-06	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-18-4	2016927-06	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2016927-06	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-4	2016927-06	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-4	2016927-06	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
MW-18-4	2016927-06	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-4	2016927-06	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-4	2016927-06	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2016927-06	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-4	2016927-06	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2016927-06	Chloroform	6/11/2020	0.58	Y	y	v		0.50	0.14	ug/L
MW-18-4	2016927-06	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-4	2016927-06	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-4	2016927-06	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-18-4	2016927-06	Toluene-d8 (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
MW-18-4	2016927-06	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L

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MW-18-4	2016927-06	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-4	2016927-06	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-18-4	2016927-06	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-4	2016927-06	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-18-4	2016927-06	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-18-4	2016927-06	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-4	2016927-06	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-4	2016927-06	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-18-4	2016927-06	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-18-4	2016927-06	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-18-4	2016927-06	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-18-4	2016927-06	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-4	2016927-06	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2016927-06	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-4	2016927-06	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2016927-06	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2016927-06	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2016927-06	Trichloroethene	6/11/2020	0.67	Y	y	v		0.50	0.19	ug/L
MW-18-4	2016927-06	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-18-4	2016927-06	1,2,4-Trimethylbenzene	6/11/2020	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-18-4	2016927-06	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2016927-06	Tetrachloroethene	6/11/2020	0.53	Y	y	v		0.50	0.23	ug/L
MW-18-4	2016927-06	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2016927-06	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2016927-06	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-18-4	2016927-06	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-4	2016927-06	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-18-4	2016927-06	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-4	2016927-06	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-18-4	2016927-06	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-18-4	2016927-06	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-18-4	2016927-06	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-18-4	2016927-06	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-4	2016927-06	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-18-4	2016927-06	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-4	2016927-06	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2016927-06	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-4	2016927-06	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-4	2016927-06	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-4	2016927-06	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-4	2016927-06	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2016927-06	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2016927-06	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2016927-06	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-4	2016927-06	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L

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MW-18-4	2016927-06	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-4	2016927-06	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2016927-06	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2016927-06	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-4	2016927-06	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-4	2016927-06	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-4	2016927-06	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-4	2016927-06	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-18-4	2016927-06	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-4	2016927-06	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-4	2016927-06	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-4	2016927-06	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2016927-04	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2016927-04	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-5	2016927-04	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2016927-04	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-5	2016927-04	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-5	2016927-04	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2016927-04	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2016927-04	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-5	2016927-04	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-5	2016927-04	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-5	2016927-04	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2016927-04	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-18-5	2016927-04	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2016927-04	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-18-5	2016927-04	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-5	2016927-04	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2016927-04	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2016927-04	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2016927-04	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2016927-04	Toluene-d8 (Surrogate)	6/11/2020	9.9	Y	y	v s				ug/L
MW-18-5	2016927-04	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-5	2016927-04	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-5	2016927-04	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2016927-04	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-5	2016927-04	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-5	2016927-04	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-18-5	2016927-04	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-5	2016927-04	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-5	2016927-04	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-5	2016927-04	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2016927-04	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-5	2016927-04	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-5	2016927-04	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-5	2016927-04	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	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	2016927-04	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-18-5	2016927-04	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-18-5	2016927-04	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-18-5	2016927-04	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-18-5	2016927-04	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-18-5	2016927-04	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-5	2016927-04	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-18-5	2016927-04	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-5	2016927-04	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-18-5	2016927-04	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-18-5	2016927-04	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-18-5	2016927-04	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
MW-18-5	2016927-04	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-18-5	2016927-04	4-Bromofluorobenzene (Surrogate)	6/11/2020	9.9	Y	y	v s				ug/L
MW-18-5	2016927-04	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2016927-04	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-5	2016927-04	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-5	2016927-04	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-18-5	2016927-04	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-18-5	2016927-04	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-5	2016927-04	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-5	2016927-04	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-18-5	2016927-04	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-18-5	2016927-04	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-18-5	2016927-04	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L

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MW-18-5	2016927-04	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-18-5	2016927-04	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2016927-04	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2016927-04	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-18-5	2016927-04	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-5	2016927-04	Styrene	6/11/2020	0.12	Y	y	v j		0.50	0.12	ug/L
MW-18-5	2016927-04	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2016927-04	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2016927-04	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-5	2016927-04	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2016927-04	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2016927-04	Carbon disulfide	6/11/2020	0.79	Y	y	v j		1.0	0.48	ug/L
MW-18-5	2016927-04	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-5	2016927-04	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-5	2016927-04	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2016927-04	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-18-5	2016927-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-5	2016927-04	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-5	2016927-04	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-5	2016927-04	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-5	2016927-04	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L

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MW-18-5	2016927-04	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-5	2016927-04	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-26-1	2016927-02	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-26-1	2016927-02	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2016927-02	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-26-1	2016927-02	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2016927-02	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-1	2016927-02	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-1	2016927-02	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2016927-02	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2016927-02	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-1	2016927-02	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-1	2016927-02	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2016927-02	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2016927-02	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-1	2016927-02	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2016927-02	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-26-1	2016927-02	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2016927-02	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2016927-02	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-1	2016927-02	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2016927-02	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-26-1	2016927-02	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-26-1	2016927-02	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-26-1	2016927-02	1,1,1,2-Tetrachloroethane	6/11/2020	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-26-1	2016927-02	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2016927-02	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2016927-02	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2016927-02	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-1	2016927-02	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2016927-02	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-1	2016927-02	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-26-1	2016927-02	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-26-1	2016927-02	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-26-1	2016927-02	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2016927-02	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-1	2016927-02	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-1	2016927-02	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2016927-02	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2016927-02	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2016927-02	Chloroform	6/11/2020	0.3	Y	y	v j		0.50	0.14	ug/L
MW-26-1	2016927-02	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-1	2016927-02	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2016927-02	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-26-1	2016927-02	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-26-1	2016927-02	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
MW-26-1	2016927-02	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-26-1	2016927-02	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-26-1	2016927-02	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-1	2016927-02	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L

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MW-26-1	2016927-02	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2016927-02	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-1	2016927-02	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-26-1	2016927-02	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2016927-02	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-26-1	2016927-02	Tetrachloroethene	6/11/2020	0.43	Y	y	v j		0.50	0.23	ug/L
MW-26-1	2016927-02	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-26-1	2016927-02	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-26-1	2016927-02	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-26-1	2016927-02	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-26-1	2016927-02	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-1	2016927-02	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-26-1	2016927-02	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-26-1	2016927-02	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	9.9	Y	y	v s				ug/L
MW-26-1	2016927-02	Toluene-d8 (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
MW-26-1	2016927-02	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-26-1	2016927-02	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-26-1	2016927-02	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-26-1	2016927-02	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
MW-26-1	2016927-02	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
MW-26-1	2016927-02	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-26-1	2016927-02	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-26-1	2016927-02	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-26-1	2016927-02	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-1	2016927-02	1,1,1-Trichloroethane	6/11/2020	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-26-1	2016927-02	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-1	2016927-02	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-26-1	2016927-02	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2016927-02	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-26-1	2016927-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2016927-02	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-1	2016927-02	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-1	2016927-02	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-26-1	2016927-02	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-26-1	2016927-02	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-26-1	2016927-02	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-1	2016927-02	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-26-1	2016927-02	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-26-1	2016927-02	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-26-1	2016927-02	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-26-1	2016927-02	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-1	2016927-02	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2016927-03	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
MW-26-2	2016927-03	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-26-2	2016927-03	Toluene-d8 (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
MW-26-2	2016927-03	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
MW-26-2	2016927-03	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-2	2016927-03	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-26-2	2016927-03	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
MW-26-2	2016927-03	Methyl acrylate	6/11/2020	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-26-2	2016927-03	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2016927-03	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2016927-03	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2016927-03	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-26-2	2016927-03	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2016927-03	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2016927-03	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2016927-03	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2016927-03	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-26-2	2016927-03	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-2	2016927-03	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
MW-26-2	2016927-03	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2016927-03	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-2	2016927-03	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-2	2016927-03	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2016927-03	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2016927-03	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-2	2016927-03	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2016927-03	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-26-2	2016927-03	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-26-2	2016927-03	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-2	2016927-03	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
MW-26-2	2016927-03	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-2	2016927-03	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
MW-26-2	2016927-03	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L

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MW-26-2	2016927-03	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-26-2	2016927-03	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-26-2	2016927-03	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-26-2	2016927-03	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-26-2	2016927-03	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-26-2	2016927-03	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2016927-03	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2016927-03	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2016927-03	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2016927-03	Chloroform	6/11/2020	1.5	Y	y	v		0.50	0.14	ug/L
MW-26-2	2016927-03	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-2	2016927-03	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2016927-03	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-26-2	2016927-03	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-26-2	2016927-03	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2016927-03	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-26-2	2016927-03	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
MW-26-2	2016927-03	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
MW-26-2	2016927-03	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2016927-03	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
MW-26-2	2016927-03	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
MW-26-2	2016927-03	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
MW-26-2	2016927-03	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-26-2	2016927-03	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2016927-03	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L

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MW-26-2	2016927-03	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2016927-03	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
MW-26-2	2016927-03	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
MW-26-2	2016927-03	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
MW-26-2	2016927-03	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-26-2	2016927-03	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
MW-26-2	2016927-03	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
MW-26-2	2016927-03	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
MW-26-2	2016927-03	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
MW-26-2	2016927-03	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L
MW-26-2	2016927-03	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-26-2	2016927-03	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
MW-26-2	2016927-03	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2016927-03	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-26-2	2016927-03	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-26-2	2016927-03	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-26-2	2016927-03	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2016927-03	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2016927-03	Tetrachloroethene	6/11/2020	1.7	Y	y	v		0.50	0.23	ug/L
MW-26-2	2016927-03	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
MW-26-2	2016927-03	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2016927-03	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-26-2	2016927-03	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2016927-03	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-26-2	2016927-03	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-26-2	2016927-03	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2016927-03	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
MW-26-2	2016927-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-26-2	2016927-03	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2016927-03	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-26-2	2016927-03	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-26-2	2016927-03	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
TB-2-061020	2016927-01	1,2,3-Trichloropropane	6/11/2020	1	Y	n	u		1.0	0.78	ug/L
TB-2-061020	2016927-01	trans-1,4-Dichloro-2-butene	6/11/2020	5	Y	n	u		5.0	1.8	ug/L
TB-2-061020	2016927-01	Carbon disulfide	6/11/2020	1	Y	n	u		1.0	0.48	ug/L
TB-2-061020	2016927-01	t-Butyl alcohol	6/11/2020	10	Y	n	u		10	9.4	ug/L
TB-2-061020	2016927-01	t-Amyl Methyl ether	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-2-061020	2016927-01	Allyl chloride	6/11/2020	5	Y	n	u		5.0	0.47	ug/L
TB-2-061020	2016927-01	Acrylonitrile	6/11/2020	5	Y	n	u		5.0	1.5	ug/L
TB-2-061020	2016927-01	Acetone	6/11/2020	10	Y	n	u		10	6.6	ug/L
TB-2-061020	2016927-01	Vinyl chloride	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-2-061020	2016927-01	1,3,5-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	1,1,2,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-2-061020	2016927-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-2-061020	2016927-01	2-Hexanone	6/11/2020	10	Y	n	u		10	5.0	ug/L
TB-2-061020	2016927-01	Trichlorofluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	Trichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-2-061020	2016927-01	1,1,2-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-2-061020	2016927-01	1,1,1-Trichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-2-061020	2016927-01	1,2,4-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L

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TB-2-061020	2016927-01	1,2,3-Trichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-2-061020	2016927-01	Toluene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-2-061020	2016927-01	Tetrachloroethene	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-2-061020	2016927-01	1,2,4-Trimethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-2-061020	2016927-01	p- & m-Xylenes	6/11/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-2-061020	2016927-01	2-Nitropropane	6/11/2020	0	Y	y	v				ug/L
TB-2-061020	2016927-01	Nitrobenzene	6/11/2020	0	Y	y	v				ug/L
TB-2-061020	2016927-01	Methyl acrylate	6/11/2020	0	Y	y	v				ug/L
TB-2-061020	2016927-01	1,1-Dichloropropanone	6/11/2020	0	Y	y	v				ug/L
TB-2-061020	2016927-01	1-Chlorobutane	6/11/2020	0	Y	y	v				ug/L
TB-2-061020	2016927-01	Chloroacetonitrile	6/11/2020	0	Y	y	v				ug/L
TB-2-061020	2016927-01	4-Bromofluorobenzene (Surrogate)	6/11/2020	10	Y	y	v s				ug/L
TB-2-061020	2016927-01	Toluene-d8 (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
TB-2-061020	2016927-01	Diethyl ether	6/11/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
TB-2-061020	2016927-01	o-Xylene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-2-061020	2016927-01	Ethyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-2-061020	2016927-01	Tetrahydrofuran	6/11/2020	20	Y	n	u		20	5.2	ug/L
TB-2-061020	2016927-01	Propionitrile	6/11/2020	20	Y	n	u		20	6.2	ug/L
TB-2-061020	2016927-01	Pentachloroethane	6/11/2020	2	Y	n	u		2.0	0.63	ug/L
TB-2-061020	2016927-01	Methyl methacrylate	6/11/2020	5	Y	n	u		5.0	1.2	ug/L
TB-2-061020	2016927-01	Methyl isobutyl ketone	6/11/2020	10	Y	n	u		10	2.4	ug/L
TB-2-061020	2016927-01	Methyl iodide	6/11/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-2-061020	2016927-01	Methyl ethyl ketone	6/11/2020	10	Y	n	u		10	3.3	ug/L
TB-2-061020	2016927-01	Methacrylonitrile	6/11/2020	10	Y	n	u		10	2.3	ug/L
TB-2-061020	2016927-01	Ethyl methacrylate	6/11/2020	4	Y	n	u		4.0	1.3	ug/L

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TB-2-061020	2016927-01	1,2-Dichloroethane-d4 (Surrogate)	6/11/2020	9.8	Y	y	v s				ug/L
TB-2-061020	2016927-01	Carbon tetrachloride	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-2-061020	2016927-01	1,3-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-2-061020	2016927-01	1,2-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-2-061020	2016927-01	Dibromomethane	6/11/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-2-061020	2016927-01	1,2-Dibromoethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-2-061020	2016927-01	1,2-Dibromo-3-chloropropane	6/11/2020	1	Y	n	u		1.0	0.89	ug/L
TB-2-061020	2016927-01	Dibromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-2-061020	2016927-01	4-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-2-061020	2016927-01	Bromochloromethane	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-2-061020	2016927-01	Chloromethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-2-061020	2016927-01	1,4-Dichlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-2-061020	2016927-01	Chlorobenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	2-Chlorotoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	tert-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-2-061020	2016927-01	sec-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-2-061020	2016927-01	n-Butylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-2-061020	2016927-01	Bromomethane	6/11/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
TB-2-061020	2016927-01	Bromoform	6/11/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-2-061020	2016927-01	Bromodichloromethane	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-2-061020	2016927-01	1,1,1,2-Tetrachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-2-061020	2016927-01	Hexachloroethane	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-2-061020	2016927-01	Bromobenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-2-061020	2016927-01	Chloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-2-061020	2016927-01	n-Propylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L

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TB-2-061020	2016927-01	Benzene	6/11/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-2-061020	2016927-01	Chloroform	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	Styrene	6/11/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-2-061020	2016927-01	Naphthalene	6/11/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
TB-2-061020	2016927-01	Methyl t-butyl ether	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	Methylene chloride	6/11/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-2-061020	2016927-01	p-Isopropyltoluene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	Isopropylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	Hexachlorobutadiene	6/11/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-2-061020	2016927-01	Ethylbenzene	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-2-061020	2016927-01	trans-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-2-061020	2016927-01	cis-1,3-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-2-061020	2016927-01	1,1-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-2-061020	2016927-01	1,1-Dichloropropene	6/11/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-2-061020	2016927-01	2,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-2-061020	2016927-01	1,3-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-2-061020	2016927-01	1,2-Dichloropropane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-2-061020	2016927-01	trans-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-2-061020	2016927-01	cis-1,2-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-2-061020	2016927-01	1,1-Dichloroethene	6/11/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-2-061020	2016927-01	1,2-Dichloroethane	6/11/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-2-061020	2016927-01	Dichlorodifluoromethane	6/11/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-18-4	2016927-06	2-Toluidine	6/17/2020	10	Y	n	u		10	0.41	ug/L
MW-18-4	2016927-06	Thionazin	6/17/2020	10	Y	n	u		10	0.38	ug/L
MW-18-4	2016927-06	2,3,4,6-Tetrachlorophenol	6/17/2020	10	Y	n	u		10	0.73	ug/L
MW-18-4	2016927-06	2,3,4,5-Tetrachlorophenol	6/17/2020	10	Y	n	u		10	5.0	ug/L
MW-18-4	2016927-06	1,2,4,5-Tetrachlorobenzene	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-18-4	2016927-06	Sulfotep	6/17/2020	10	Y	n	u		10	0.23	ug/L
MW-18-4	2016927-06	Safrole	6/17/2020	10	Y	n	u		10	0.40	ug/L
MW-18-4	2016927-06	4-Chloro-1,2-phenylenediamine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Toxaphene	6/17/2020	100	Y	n	u		100	50	ug/L
MW-18-4	2016927-06	Demeton-S	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Pyridine	6/17/2020	10	Y	n	u		10	1.6	ug/L
MW-18-4	2016927-06	4-Chloro-1,3-phenylenediamine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Coumaphos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	p-Cresidine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Crotoxyphos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Dibenzo[a,e]pyrene	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Demeton-O	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	o,o,o-Triethylphosphorothioate	6/17/2020	10	Y	n	u		10	0.44	ug/L
MW-18-4	2016927-06	2,4-Diaminotoluene	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Dibenz[a,j]acridine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	1,2-Dibromo-3-chloropropane	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Dichlone	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	2-Cyclohexyl-4,6-dinitrophenol	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Anilazine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Sulfallate	6/17/2020	0	Y	y	v				ug/L

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MW-18-4	2016927-06	Dichlorvos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	cis-Diallate	6/17/2020	5	Y	n	u		5.0	2.4	ug/L
MW-18-4	2016927-06	Tris(2,3-dibromopropyl) phosphate	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Trimethyl phosphate	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	2,4,5-Trimethylaniline	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Trifluralin	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Toluene 2,4-diisocyanate	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Thiophenol (Benzenethiol)	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Prowl	6/17/2020	10	Y	n	u		10	0.83	ug/L
MW-18-4	2016927-06	Tetrachlorvinphos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	1,3,5-Trinitrobenzene	6/17/2020	10	Y	n	u		10	1.4	ug/L
MW-18-4	2016927-06	3-Amino-9-ethylcarbazole	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	2-Aminoanthraquinone	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	1-Acetyl-2-thiourea	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	p-Terphenyl-d14 (Surrogate)	6/17/2020	14	Y	y	v s				ug/L
MW-18-4	2016927-06	2,4,6-Tribromophenol (Surrogate)	6/17/2020	44	Y	y	v s				ug/L
MW-18-4	2016927-06	2-Fluorobiphenyl (Surrogate)	6/17/2020	32	Y	y	v s				ug/L
MW-18-4	2016927-06	Nitrobenzene-d5 (Surrogate)	6/17/2020	38	Y	y	v s				ug/L
MW-18-4	2016927-06	Phenol-d5 (Surrogate)	6/17/2020	15	Y	y	v s				ug/L
MW-18-4	2016927-06	2-Fluorophenol (Surrogate)	6/17/2020	29	Y	y	v s				ug/L
MW-18-4	2016927-06	Tris(hydroxymethyl)nitromethane	6/17/2020	50	Y	n	u		50	5.0	ug/L
MW-18-4	2016927-06	TEPP	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Phenobarbital	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Mexacarbate	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Mirex	6/17/2020	0	Y	y	v				ug/L

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MW-18-4	2016927-06	Monocrotophos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Naled	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Nicotine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	5-Nitroacenaphthene	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	5-Nitro-o-anisidine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	4-Nitrobiphenyl	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Nitrophen	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Resorcinol	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	4,4'-Oxydianiline	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	4,4'-Methylenebis(2-chloroaniline)	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Phosalone	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Phosmet	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Phosphamidon	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Phthalic anhydride	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Piperonyl sulfoxide	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Propylthiouracil	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Pronamide	6/17/2020	10	Y	n	u		10	0.22	ug/L
MW-18-4	2016927-06	Strychnine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Propyleneglycol monomethyl ether acetate	6/17/2020	10	Y	n	u		10	3.7	ug/L
MW-18-4	2016927-06	Terbufos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Octamethylpyrophosphoramide	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Ethyl carbamate	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Diethylstilbestrol	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Diethyl sulfate	6/17/2020	0	Y	y	v				ug/L

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MW-18-4	2016927-06	Dihydrosafrole	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	3,3'-Dimethoxybenzidine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	1,2-Dinitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	1,4-Dinitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Dinocap	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Dioxathion	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	5,5-Diphenylhydantoin	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Endrin ketone	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Mevinphos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Ethion	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	4,4'-Methylenebis[N,N-dimethylaniline]	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Fensulfothion	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Fenthion	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Fluchloralin	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Hexamethylphosphoramide	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Hydroquinone	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Leptophos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Malathion	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Maleic Anhydride	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Mestranol	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Dicrotophos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	EPN	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Endrin aldehyde	6/17/2020	10	Y	n	u		10	0.44	ug/L
MW-18-4	2016927-06	7,12-Dimethylbenz[a]anthracene	6/17/2020	10	Y	n	u		10	0.37	ug/L
MW-18-4	2016927-06	Dimethyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L

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MW-18-4	2016927-06	Di-n-butyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	2,4-Dinitrotoluene	6/17/2020	2	Y	n	u		2.0	0.40	ug/L
MW-18-4	2016927-06	2,6-Dinitrotoluene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Di-n-octyl phthalate	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-18-4	2016927-06	1,2-Diphenylhydrazine	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Endosulfan I	6/17/2020	10	Y	n	u	UJ	10	0.31	ug/L
MW-18-4	2016927-06	Endosulfan II	6/17/2020	10	Y	n	u		10	0.30	ug/L
MW-18-4	2016927-06	Dieldrin	6/17/2020	3	Y	n	u		3.0	0.39	ug/L
MW-18-4	2016927-06	Endrin	6/17/2020	2	Y	n	u		2.0	0.38	ug/L
MW-18-4	2016927-06	bis(2-Chloroisopropyl)ether	6/17/2020	2	Y	n	u	UJ	2.0	0.20	ug/L
MW-18-4	2016927-06	Fluoranthene	6/17/2020	2	Y	n	u		2.0	0.28	ug/L
MW-18-4	2016927-06	Fluorene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	3,3-Dichlorobenzidine	6/17/2020	10	Y	n	u	UJ	10	0.53	ug/L
MW-18-4	2016927-06	Heptachlor epoxide	6/17/2020	2	Y	n	u		2.0	0.26	ug/L
MW-18-4	2016927-06	Hexachlorobenzene	6/17/2020	2	Y	n	u		2.0	0.25	ug/L
MW-18-4	2016927-06	Hexachlorobutadiene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Hexachlorocyclopentadiene	6/17/2020	2	Y	n	u		2.0	0.31	ug/L
MW-18-4	2016927-06	Hexachloroethane	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Indeno[1,2,3-cd]pyrene	6/17/2020	2	Y	n	u		2.0	0.29	ug/L
MW-18-4	2016927-06	Endosulfan sulfate	6/17/2020	3	Y	n	u		3.0	0.23	ug/L
MW-18-4	2016927-06	4-Chlorophenyl phenyl ether	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Prometryn	6/17/2020	10	Y	n	u		10	1.7	ug/L
MW-18-4	2016927-06	beta-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Tri-p-tolyl phosphate	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	gamma-BHC (Lindane)	6/17/2020	2	Y	n	u		2.0	0.20	ug/L

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MW-18-4	2016927-06	bis(2-Chloroethoxy)methane	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	bis(2-Chloroethyl) ether	6/17/2020	2	Y	n	u		2.0	0.31	ug/L
MW-18-4	2016927-06	2-Naphthylamine	6/17/2020	20	Y	n	u	UJ	20	1.3	ug/L
MW-18-4	2016927-06	bis(2-Ethylhexyl)phthalate	6/17/2020	4	Y	n	u		4.0	0.20	ug/L
MW-18-4	2016927-06	4-Bromophenyl phenyl ether	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Diethyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	2-Chloronaphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Naphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Chrysene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	4,4'-DDD	6/17/2020	2	Y	n	u		2.0	0.26	ug/L
MW-18-4	2016927-06	4,4'-DDE	6/17/2020	3	Y	n	u		3.0	0.24	ug/L
MW-18-4	2016927-06	4,4'-DDT	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-18-4	2016927-06	Dibenzo[a,h]anthracene	6/17/2020	3	Y	n	u		3.0	0.34	ug/L
MW-18-4	2016927-06	Dibenzofuran	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	1,2-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	1,3-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	1,4-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.27	ug/L
MW-18-4	2016927-06	4-Chloroaniline	6/17/2020	2	Y	n	u		2.0	1.1	ug/L
MW-18-4	2016927-06	Caprolactam	6/17/2020	10	Y	n	u		10	3.6	ug/L
MW-18-4	2016927-06	Phenol	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-18-4	2016927-06	2,4,5-Trichlorophenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-18-4	2016927-06	2,4,6-Trichlorophenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-18-4	2016927-06	Acetophenone	6/17/2020	10	Y	n	u		10	0.33	ug/L
MW-18-4	2016927-06	2-Acetylaminofluorene	6/17/2020	10	Y	n	u		10	0.78	ug/L
MW-18-4	2016927-06	Acrolein, dimethyl acetal	6/17/2020	40	Y	n	u		40	6.1	ug/L

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MW-18-4	2016927-06	4-Aminobiphenyl	6/17/2020	20	Y	n	u		20	0.35	ug/L
MW-18-4	2016927-06	Aramite	6/17/2020	10	Y	n	u	UJ	10	0.35	ug/L
MW-18-4	2016927-06	Benzaldehyde	6/17/2020	10	Y	n	u		10	2.9	ug/L
MW-18-4	2016927-06	Isophorone	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	1,1-Biphenyl	6/17/2020	10	Y	n	u		10	3.6	ug/L
MW-18-4	2016927-06	2-Nitrophenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Carbazole	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	cis-Chlordane	6/17/2020	5	Y	n	u	UJ	5.0	0.59	ug/L
MW-18-4	2016927-06	trans-Chlordane	6/17/2020	5	Y	n	u		5.0	0.55	ug/L
MW-18-4	2016927-06	Chlorobenzilate	6/17/2020	10	Y	n	u		10	0.27	ug/L
MW-18-4	2016927-06	1-Chloronaphthalene	6/17/2020	10	Y	n	u		10	0.37	ug/L
MW-18-4	2016927-06	Dimethoate	6/17/2020	20	Y	n	u		20	0.99	ug/L
MW-18-4	2016927-06	2,6-Dichlorophenol	6/17/2020	10	Y	n	u		10	0.28	ug/L
MW-18-4	2016927-06	Diallate	6/17/2020	10	Y	n	u		10	3.0	ug/L
MW-18-4	2016927-06	trans-Diallate	6/17/2020	5	Y	n	u		5.0	0.56	ug/L
MW-18-4	2016927-06	Benefin	6/17/2020	10	Y	n	u		10	0.88	ug/L
MW-18-4	2016927-06	1,2,4-Trichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	p-(Dimethylamino)azobenzene	6/17/2020	10	Y	n	u	UJ	10	0.27	ug/L
MW-18-4	2016927-06	Heptachlor	6/17/2020	2	Y	n	u	UJ	2.0	0.20	ug/L
MW-18-4	2016927-06	2-Nitroaniline	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	3-Nitroaniline	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-18-4	2016927-06	4-Nitroaniline	6/17/2020	5	Y	n	u		5.0	0.38	ug/L
MW-18-4	2016927-06	Nitrobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	N-Nitrosodimethylamine	6/17/2020	2	Y	n	u		2.0	1.2	ug/L
MW-18-4	2016927-06	N-Nitrosodi-N-propylamine	6/17/2020	2	Y	n	u		2.0	0.21	ug/L

SDG: 2016927

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-4	2016927-06	N-Nitrosodiphenylamine	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Pentachlorophenol	6/17/2020	10	Y	n	u		10	0.40	ug/L
MW-18-4	2016927-06	Pyrene	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-18-4	2016927-06	4-Nitrophenol	6/17/2020	2	Y	n	u		2.0	0.30	ug/L
MW-18-4	2016927-06	4-Chloro-3-methylphenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-18-4	2016927-06	2-Chlorophenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	2,4-Dichlorophenol	6/17/2020	2	Y	n	u		2.0	0.23	ug/L
MW-18-4	2016927-06	2,4-Dimethylphenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	4,6-Dinitro-2-methylphenol	6/17/2020	10	Y	n	u		10	0.24	ug/L
MW-18-4	2016927-06	2,4-Dinitrophenol	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-18-4	2016927-06	2-Methylphenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	3- & 4-Methylphenol	6/17/2020	2	Y	n	u		2.0	0.40	ug/L
MW-18-4	2016927-06	Total Methylphenol	6/17/2020	4	Y	n	u		4.0	0.60	ug/L
MW-18-4	2016927-06	2-Methylnaphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Phenanthrene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Methyl methacrylate	6/17/2020	40	Y	n	u		40	3.8	ug/L
MW-18-4	2016927-06	5-Chloro-2-methylaniline	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	N-Nitrosodibutylamine	6/17/2020	10	Y	n	u		10	0.26	ug/L
MW-18-4	2016927-06	4-Nitroquinoline 1-oxide	6/17/2020	20	Y	n	u		20	0.95	ug/L
MW-18-4	2016927-06	5-Nitro-o-toluidine	6/17/2020	10	Y	n	u		10	0.85	ug/L
MW-18-4	2016927-06	1-Naphthylamine	6/17/2020	20	Y	n	u	UJ	20	0.30	ug/L
MW-18-4	2016927-06	1,4-Naphthoquinone	6/17/2020	20	Y	n	u	UJ	20	0.87	ug/L
MW-18-4	2016927-06	N-Methyl-2-pyrrolidinone	6/17/2020	10	Y	n	u		10	2.5	ug/L
MW-18-4	2016927-06	Methyl parathion	6/17/2020	10	Y	n	u	UJ	10	0.71	ug/L
MW-18-4	2016927-06	N-Nitrosomethylethylamine	6/17/2020	10	Y	n	u		10	0.61	ug/L

SDG: 2016927

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-4	2016927-06	Methyl methanesulfonate	6/17/2020	10	Y	n	u		10	0.40	ug/L
MW-18-4	2016927-06	N-Nitrosomorpholine	6/17/2020	10	Y	n	u		10	0.63	ug/L
MW-18-4	2016927-06	delta-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Methoxychlor	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-18-4	2016927-06	3,3'-Dimethylbenzidine	6/17/2020	20	Y	n	u		20	0.42	ug/L
MW-18-4	2016927-06	Kepone	6/17/2020	20	Y	n	u		20	2.2	ug/L
MW-18-4	2016927-06	Isosafrole	6/17/2020	10	Y	n	u		10	0.73	ug/L
MW-18-4	2016927-06	trans-Isosafrole	6/17/2020	5	Y	n	u		5.0	0.29	ug/L
MW-18-4	2016927-06	cis-Isosafrole	6/17/2020	5	Y	n	u		5.0	0.44	ug/L
MW-18-4	2016927-06	3-(Chloromethyl) pyridine hydrochloride	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	1-Methylnaphthalene	6/17/2020	10	Y	n	u		10	0.26	ug/L
MW-18-4	2016927-06	2-Picoline	6/17/2020	10	Y	n	u		10	1.2	ug/L
MW-18-4	2016927-06	Total PCB's (Summation)	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	PCB-1262	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	PCB-1016	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	PCB-1221	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	PCB-1254	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	PCB-1248	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	PCB-1260	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	PCB-1232	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	N-Nitrosodiethylamine	6/17/2020	10	Y	n	u		10	0.55	ug/L
MW-18-4	2016927-06	PCB-1242	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	Methapyrilene	6/17/2020	10	Y	n	u		10	2.9	ug/L
MW-18-4	2016927-06	Phorate	6/17/2020	10	Y	n	u		10	0.35	ug/L
MW-18-4	2016927-06	1,4-Phenylenediamine	6/17/2020	20	Y	n	u		20	1.1	ug/L

SDG: 2016927

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-4	2016927-06	Phenacetin	6/17/2020	10	Y	n	u		10	0.75	ug/L
MW-18-4	2016927-06	Pentachloronitrobenzene	6/17/2020	10	Y	n	u		10	0.42	ug/L
MW-18-4	2016927-06	Pentachloroethane	6/17/2020	20	Y	n	u		20	0.31	ug/L
MW-18-4	2016927-06	Pentachlorobenzene	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-18-4	2016927-06	N-Nitrosopyrrolidine	6/17/2020	10	Y	n	u		10	0.39	ug/L
MW-18-4	2016927-06	N-Nitrosopiperidine	6/17/2020	10	Y	n	u		10	0.47	ug/L
MW-18-4	2016927-06	PCB-1268	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-18-4	2016927-06	Famphur	6/17/2020	20	Y	n	u	UJ	20	4.1	ug/L
MW-18-4	2016927-06	Benzo[b]fluoranthene	6/17/2020	2	Y	n	u		2.0	0.24	ug/L
MW-18-4	2016927-06	Benzo[k]fluoranthene	6/17/2020	2	Y	n	u		2.0	0.30	ug/L
MW-18-4	2016927-06	Benzo[a]pyrene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Benzo[g,h,i]perylene	6/17/2020	2	Y	n	u		2.0	0.33	ug/L
MW-18-4	2016927-06	Chlorfenvinphos	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Benzyl alcohol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	3-Methylcholanthrene	6/17/2020	10	Y	n	u		10	0.31	ug/L
MW-18-4	2016927-06	alpha-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Isodrin	6/17/2020	10	Y	n	u		10	0.43	ug/L
MW-18-4	2016927-06	Benzo[a]anthracene	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-18-4	2016927-06	Hexachlorophene	6/17/2020	200	Y	n	u	UJ	200	20	ug/L
MW-18-4	2016927-06	Benzoic acid	6/17/2020	10	Y	n	u		10	0.52	ug/L
MW-18-4	2016927-06	Ethyl Parathion	6/17/2020	10	Y	n	u	UJ	10	0.53	ug/L
MW-18-4	2016927-06	Ethyl methanesulfonate	6/17/2020	10	Y	n	u		10	0.61	ug/L
MW-18-4	2016927-06	Ethyl methacrylate	6/17/2020	10	Y	n	u	UJ	10	1.2	ug/L
MW-18-4	2016927-06	Disulfoton	6/17/2020	10	Y	n	u	UJ	10	0.33	ug/L
MW-18-4	2016927-06	Diphenylamine	6/17/2020	10	Y	n	u		10	0.61	ug/L

SDG: 2016927

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-4	2016927-06	Dinoseb	6/17/2020	10	Y	n	u		10	0.91	ug/L
MW-18-4	2016927-06	1,3-Dinitrobenzene	6/17/2020	10	Y	n	u		10	0.93	ug/L
MW-18-4	2016927-06	Dimethyl sulfoxide (DMSO)	6/17/2020	10	Y	n	u		10	9.5	ug/L
MW-18-4	2016927-06	a,a-Dimethylphenethylamine	6/17/2020	20	Y	n	u		20	4.9	ug/L
MW-18-4	2016927-06	Hexachloropropene	6/17/2020	20	Y	n	u		20	0.23	ug/L
MW-18-4	2016927-06	o-Anisidine	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Carbophenothion	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Carbofuran	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Carbaryl	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Captan	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Captafol	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Bromoxynil	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	p-Benzoquinone	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Barban	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Azinphos methyl	6/17/2020	0	Y	y	v				ug/L
MW-18-4	2016927-06	Benzyl butyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Benzidine	6/17/2020	20	Y	n	u	UJ	20	1.6	ug/L
MW-18-4	2016927-06	Acenaphthene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Anthracene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Aniline	6/17/2020	5	Y	n	u		5.0	0.28	ug/L
MW-18-4	2016927-06	Acenaphthylene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-18-4	2016927-06	Aldrin	6/17/2020	2	Y	n	u		2.0	0.23	ug/L

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units

SDG: 2016927

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-2-061020	2016927-07	Bicarbonate	6/16/2020	5	Y	n	u		5.0	5.0	mg/L
EB-2-061020	2016927-07	Total Alkalinity as CaCO3	6/16/2020	4.1	Y	n	u		4.1	4.1	mg/L
EB-2-061020	2016927-07	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-18-3	2016927-05	Bicarbonate	6/16/2020	240	Y	y	v		5.0	5.0	mg/L
MW-18-3	2016927-05	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-18-3	2016927-05	Total Alkalinity as CaCO3	6/16/2020	200	Y	y	v		4.1	4.1	mg/L
MW-18-4	2016927-06	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-18-4	2016927-06	Bicarbonate	6/16/2020	200	Y	y	v		5.0	5.0	mg/L
MW-18-4	2016927-06	Total Alkalinity as CaCO3	6/16/2020	160	Y	y	v		4.1	4.1	mg/L
MW-18-5	2016927-04	Carbonate	6/16/2020	15	Y	y	v		2.5	2.5	mg/L
MW-18-5	2016927-04	Total Alkalinity as CaCO3	6/16/2020	120	Y	y	v		4.1	4.1	mg/L
MW-18-5	2016927-04	Bicarbonate	6/16/2020	110	Y	y	v		5.0	5.0	mg/L
MW-26-1	2016927-02	Bicarbonate	6/16/2020	320	Y	y	v		5.0	5.0	mg/L
MW-26-1	2016927-02	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-26-1	2016927-02	Total Alkalinity as CaCO3	6/16/2020	260	Y	y	v		4.1	4.1	mg/L
MW-26-2	2016927-03	Bicarbonate	6/16/2020	210	Y	y	v		5.0	5.0	mg/L
MW-26-2	2016927-03	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-26-2	2016927-03	Total Alkalinity as CaCO3	6/16/2020	170	Y	y	v		4.1	4.1	mg/L

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017061

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-3-061120	2017061-01	Water	06/11/20
MW-18-2	2017061-02	Water	06/11/20
MW-18-1	2017061-03	Water	06/11/20
MW-19-2	2017061-04	Water	06/11/20
MW-19-3	2017061-05	Water	06/11/20
DUP-1-2Q2020	2017061-06	Water	06/11/20
MW-19-5	2017061-07	Water	06/11/20
MW-19-4	2017061-08	Water	06/11/20
EB-3-061120	2017061-09	Water	06/11/20
SB-1-061120	2017061-10	Water	06/11/20
MW-19-1	2017061-11	Water	06/11/20
MW-18-2MS	2017061-02MS	Water	06/11/20
MW-18-2MSD	2017061-02MSD	Water	06/11/20

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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/10/20	Diethyl ether	74.0	All samples in SDG 2017061	UJ (all non-detects)	P

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
06/13/20	Naphthalene 1,2,4-Trichlorobenzene	45.6 32.2	All samples in SDG 2017061	UJ (all non-detects) UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
06/12/20	trans-1,4-Dichloro-2-butene	38.6	All samples in SDG 2017061	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-3-061120 was identified as a trip blank. No contaminants were found.

Sample EB-3-061120 was identified as an equipment blank. No contaminants were found.

Sample SB-1-061120 was identified as a source 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-19-3 and DUP-1-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-19-3	DUP-1-2Q2020	
Chloroform	2.1	1.9	10
Tetrachloroethene	0.71	0.53	29

Compound	Concentration (ug/L)		RPD
	MW-19-3	DUP-1-2Q2020	
Trichloroethene	0.27	0.22	20

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 ICV %D and 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, 2Q2020
Volatiles - Data Qualification Summary - SDG 2017061

Sample	Compound	Flag	A or P	Reason
TB-3-061120 MW-18-2 MW-18-1 MW-19-2 MW-19-3 DUP-1-2Q2020 MW-19-5 MW-19-4 EB-3-061120 SB-1-061120 MW-19-1	Diethyl ether	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-3-061120 MW-18-2 MW-18-1 MW-19-2 MW-19-3 DUP-1-2Q2020 MW-19-5 MW-19-4 EB-3-061120 SB-1-061120 MW-19-1	Naphthalene 1,2,4-Trichlorobenzene trans-1,4-Dichloro-2-butene	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2017061

No Sample Data Qualified in this SDG

LDC #: 48646C1a

SDG #: 2017061

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/1/20

Page: 1 of 1

Reviewer:

2nd Reviewer:

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 SW	RSD ≤ 20%. r² ICV ≤ 30%
IV.	Continuing calibration	SW	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=9. SB=10
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D=5+6
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-3-061120	2017061-01	Water	06/11/20
2	MW-18-2	2017061-02	Water	06/11/20
3	MW-18-1	2017061-03	Water	06/11/20
4	MW-19-2	2017061-04	Water	06/11/20
5	MW-19-3	2017061-05	Water	06/11/20
6	DUP-1-2Q2020	2017061-06	Water	06/11/20
7	MW-19-5	2017061-07	Water	06/11/20
8	MW-19-4	2017061-08	Water	06/11/20
9	EB-3-061120	2017061-09	Water	06/11/20
10	SB-1-061120	2017061-10	Water	06/11/20
11	MW-19-1	2017061-11	Water	06/11/20
12	MW-18-2MS	2017061-02MS	Water	06/11/20
13	MW-18-2MSD	2017061-02MSD	Water	06/11/20
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. 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.

LDC #: ~~48646c1g~~

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: R
2nd Reviewer:

METHOD: GC/MS VOA (EPA ~~SW 846~~ Method ~~8260B~~) ~~524.~~ =)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y (N) N/A Were all %D within the validation criteria of ~~≤20 %D?~~ 30%?

#	Date	Standard ID	Compound	Finding %D (Limit: ~~≤20.0%~~ 30%)	Associated Samples	Qualifications
	5/10/20	10JUN14	Diethyl ether	74.0	UUL (ND)	J/UJ/A

LDC #: ~~18660~~ 01

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer:

METHOD: GC/MS VOA (EPA ~~SW 846~~ Method ~~8260B~~) ~~524.2~~

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
(Y) N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y (N) N/A Were all %D and RRFs within the validation criteria of ~~≤20 %D and ≥0.05 RRF ?~~ 30% .

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/3/20	R1VN02	MVM	45.6		All (ND)	J/UN/P
			KKK	32.2			
	6/5/20	R1VN03	XYYY	38.6		All (ND)	J/UJ/P

CONCAL 1SB

LDC#: 48646C1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: QV
2nd Reviewer:

METHOD: GCMS VOA (EPA Method 524.2)

Compound	Concentration (ug/L)		RPD
	5	6	
K	2.1	1.9	10
AA	0.71	0.53	29
S	0.27	0.22	20

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Semivolatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017061

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-19-2	2017061-04	Water	06/11/20

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:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270C

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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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, percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs) with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
06/15/20	Benzidine	56.06873	All samples in SDG 2017061	UJ (all non-detects)	A
	Endosulfan I	18.33888		UJ (all non-detects)	
	2-Naphthylamine	49.74228		UJ (all non-detects)	
	cis-Chlordane	32.46043		UJ (all non-detects)	
	Famphur	40.31817		UJ (all non-detects)	
	1-Naphthylamine	37.88838		UJ (all non-detects)	

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 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
06/16/20 (16JUN003)	Benzidine	25.2	All samples in SDG 2017061	Benzidine	UJ (all non-detects)	A
	2,2'-Oxybis(1-chloropropane)	27.2		2,2'-Oxybis(1-chloropropane)	UJ (all non-detects)	
	3,3'-Dichlorobenzidine	25.9		3,3'-Dichlorobenzidine	UJ (all non-detects)	
	Heptachlor	20.8		Heptachlor	UJ (all non-detects)	
	2-Naphthylamine	33.4		2-Naphthylamine	UJ (all non-detects)	

Date	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
06/16/20 (16JUN004)	Aramite	20.9	All samples in SDG 2017061	Aramite	UJ (all non-detects)	A
	p-(Dimethylamino)azobenzene	23.9		p-(Dimethylamino)azobenzene	UJ (all non-detects)	
	Disulfoton	22.6		Disulfoton	UJ (all non-detects)	
	Ethyl methacrylate	31.2		Ethyl methacrylate	UJ (all non-detects)	
	Ethyl Parathion	23.9		Ethyl Parathion	UJ (all non-detects)	
	Methyl parathion	26.3		Methyl parathion	UJ (all non-detects)	
	1,4-Naphthoquinone	33.7		1,4-Naphthoquinone	UJ (all non-detects)	
	Hexachlorophene	36.1		Hexachlorophene	UJ (all non-detects)	
	PCB-1260	22.7		PCB-1260	UJ (all non-detects)	
				PCB-1016	UJ (all non-detects)	
				PCB-1221	UJ (all non-detects)	
				PCB-1232	UJ (all non-detects)	
				PCB-1242	UJ (all non-detects)	
				PCB-1248	UJ (all non-detects)	
				PCB-1254	UJ (all non-detects)	
				PCB-1262	UJ (all non-detects)	
				PCB-1268	UJ (all non-detects)	
				Total PCBs	UJ (all non-detects)	

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

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 initial calibration %RSD and ICV %D, data were qualified as estimated in one sample.

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

NASA JPL, 2Q2020
Semivolatiles - Data Qualification Summary - SDG 2017061

Sample	Compound	Flag	A or P	Reason
MW-19-2	Benzidine	UJ (all non-detects)	A	Initial calibration (%RSD)
	Endosulfan I	UJ (all non-detects)		
	2-Naphthylamine	UJ (all non-detects)		
	cis-Chlordane	UJ (all non-detects)		
	Famphur	UJ (all non-detects)		
	1-Naphthylamine	UJ (all non-detects)		
MW-19-2	Benzidine	UJ (all non-detects)		Initial calibration verification (%D)
	2,2'-Oxybis(1-chloropropane)	UJ (all non-detects)		
	3,3'-Dichlorobenzidine	UJ (all non-detects)		
	Heptachlor	UJ (all non-detects)		
	2-Naphthylamine	UJ (all non-detects)		
	Aramite	UJ (all non-detects)		
	p-(Dimethylamino)azobenzene	UJ (all non-detects)		
	Disulfoton	UJ (all non-detects)		
	Ethyl methacrylate	UJ (all non-detects)		
	Ethyl Parathion	UJ (all non-detects)		
	Methyl parathion	UJ (all non-detects)		
	1,4-Naphthoquinone	UJ (all non-detects)		
	Hexachlorophene	UJ (all non-detects)		
	PCB-1260	UJ (all non-detects)		
	PCB-1016	UJ (all non-detects)		
	PCB-1221	UJ (all non-detects)		
	PCB-1232	UJ (all non-detects)		
	PCB-1242	UJ (all non-detects)		
	PCB-1248	UJ (all non-detects)		
	PCB-1254	UJ (all non-detects)		
	PCB-1262	UJ (all non-detects)		
	PCB-1268	UJ (all non-detects)		
	Total PCBs	UJ (all non-detects)		

NASA JPL, 2Q2020
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 2017061

No Sample Data Qualified in this SDG

LDC #: 48646C2a

SDG #: 2017061

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/1/20

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

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	SW/SW	RSD≤30%/15%. r² ICV≤20%
IV.	Continuing calibration	SW/A	CCV≤20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	SW	
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	MW-19-2	2017061-04	Water	06/11/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	CC. Dimethylphthalate	EEE. Bis(2-ethylhexyl)phthalate	GGGG. C30-Hopane	I1. Methyl methanesulfonate
B. Bis (2-chloroethyl) ether	DD. Acenaphthylene	FFF. Di-n-octylphthalate	HHHH. 1-Methylphenanthrene	J1. Ethyl methanesulfonate
C. 2-Chlorophenol	EE. 2,6-Dinitrotoluene	GGG. Benzo(b)fluoranthene	IIII. 1,4-Dioxane	K1. o,o',o''-Triethylphosphorothioate
D. 1,3-Dichlorobenzene	FF. 3-Nitroaniline	HHH. Benzo(k)fluoranthene	JJJJ. Acetophenone	L1. n-Phenylene diamine
E. 1,4-Dichlorobenzene	GG. Acenaphthene	III. Benzo(a)pyrene	KKKK. Atrazine	M1. 1,4-Naphthoquinone
F. 1,2-Dichlorobenzene	HH. 2,4-Dinitrophenol	JJJ. Indeno(1,2,3-cd)pyrene	LLLL. Benzaldehyde	N1. N-Nitro-o-toluidine
G. 2-Methylphenol	II. 4-Nitrophenol	KKK. Dibenz(a,h)anthracene	MMMM. Caprolactam	O1. 1,3,5-Trinitrobenzene
H. 2,2'-Oxybis(1-chloropropane)	JJ. Dibenzofuran	LLL. Benzo(g,h,i)perylene	NNNN. 2,6-Dichlorophenol	P1. Pentachlorobenzene
I. 4-Methylphenol	KK. 2,4-Dinitrotoluene	MMM. Bis(2-Chloroisopropyl)ether	OOOO. 1,2-Diphenylhydrazine	Q1. 4-Aminobiphenyl
J. N-Nitroso-di-n-propylamine	LL. Diethylphthalate	NNN. Aniline	PPPP. 3-Methylphenol	R1. 2-Naphthylamine
K. Hexachloroethane	MM. 4-Chlorophenyl-phenyl ether	OOO. N-Nitrosodimethylamine	QQQQ. 3&4-Methylphenol	S1. Triphenylene
L. Nitrobenzene	NN. Fluorene	PPP. Benzoic Acid	RRRR. 4-Dimethyldibenzothiophene (4MDT)	T1. Octachlorostyrene
M. Isophorone	OO. 4-Nitroaniline	QQQ. Benzyl alcohol	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	U1. Famphur
N. 2-Nitrophenol	PP. 4,6-Dinitro-2-methylphenol	RRR. Pyridine	TTTT. 1-Methyldibenzothiophene (1MDT)	V1. 1,4-phenylenediamine
O. 2,4-Dimethylphenol	QQ. N-Nitrosodiphenylamine	SSS. Benzidine	UUUU.. 2,3,4,6-Tetrachlorophenol	W1. Methapyrilene
P. Bis(2-chloroethoxy)methane	RR. 4-Bromophenyl-phenylether	TTT. 1-Methylnaphthalene	VVVV. 1,2,4,5-Tetrachlorobenzene	X1. Pentachloroethane
Q. 2,4-Dichlorophenol	SS. Hexachlorobenzene	UUU.Benzo(b)thiophene	WWWW.. 2-Picoline	Y1. 3,3'-Dimethylbenzidine
R. 1,2,4-Trichlorobenzene	TT. Pentachlorophenol	VVV.Benzonaphthothiophene	XXXX. 3-Methylcholanthrene	Z1. o-Toluidine
S. Naphthalene	UU. Phenanthrene	WWW.Benzo(e)pyrene	YYYY. a,a-Dimethylphenethylamine	A2. 1-Naphthylamine
T. 4-Chloroaniline	VV. Anthracene	XXX. 2,6-Dimethylnaphthalene	ZZZZ. Hexachloropropene	B2. 4-Aminobiphenyl
U. Hexachlorobutadiene	WW. Carbazole	YYY. 2,3,5-Trimethylnaphthalene	A1. N-Nitrosodiethylamine	C2. 4-Nitroquinoline-1-oxide
V. 4-Chloro-3-methylphenol	XX. Di-n-butylphthalate	ZZZ. Perylene	B1. N-Nitrosodi-n-butylamine	D2. Hexachloropene
W. 2-Methylnaphthalene	YY. Fluoranthene	AAAA. Dibenzothiophene	C1. N-Nitrosomethylethylamine	E2. Bis (2-chloro-1-methylethyl) ether
X. Hexachlorocyclopentadiene	ZZ. Pyrene	BBBB. Benzo(a)fluoranthene	D1. N-Nitrosomorpholine	F2. Bifenthrin
Y. 2,4,6-Trichlorophenol	AAA. Butylbenzylphthalate	CCCC. Benzo(b)fluorene	E1. N-Nitrosopyrrolidine	G2. Cyfluthrin
Z. 2,4,5-Trichlorophenol	BBB. 3,3'-Dichlorobenzidine	DDDD. cis/trans-Decalin	F1. Phenacetin	H2. Cypermethrin
AA. 2-Chloronaphthalene	CCC. Benzo(a)anthracene	EEEE. Biphenyl	G1. 2-Acetylaminofluorene	I2. Permethrin (cis/trans)
BB. 2-Nitroaniline	DDD. Chrysene	FFFF. Retene	H1. Pronamide	J2. 5-Nitro-o-toluidine

LDC #: 48646C2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: ____
2nd Reviewer: ____

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory conduct an acceptable 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?________
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0/15%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/15/20	ICAL	SSS	56.06873		All (ND)	J/UJ/A
			Endosulfan I	18.33888			
			R1	49.74228			
			cis-Chlordane	32.46043			
			U1	40.31817			
			A2	37.88838			

LDC #: 48646C2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: EG
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N N/A Were all %D within the validation criteria of ≤30 %D ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/16/20	16JUN003	SSS	25.2	All (ND)	J/UJ/A
			H	27.2		
			BBB	25.9		
			Heptachlor	20.8		
			R1	33.4		
	6/16/20	16JUN004	Aramite	20.9		
			p-(Dimethylamino)azobenzene	23.9		
			Disilfoton	22.6		
			Ethyl methacrylate	31.2		
			Ethyl Parathion	23.9		
			Methyl parathion	26.3		
			M1	33.7		
			Hexachlorophene	36.1		
			PCB-1260	27.7		(qual: PCB-1016, 1221,1232,1242, 1248,1254,1260,1262,1268, and Total PCBS)

LDC #: ~~18646~~ 29

VALIDATION FINDINGS WORKSHEET
Internal Standards

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: ________

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all internal standard area counts within -50 to +100 of the associated calibration standard?
(Y) N N/A Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

#	Date	Sample ID	Internal Standard	Area (Limits)	RT (Limits)	Qualifications
		B080194-BLK	PRY	3498T4 (T3853-2954 12)		J dets / P

(DCB) = 1,4-Dichlorobenzene-d4
(NPT) = Naphthalene-d8
(ANT) = Acenaphthene-d10
(PHN) = Phenanthrene-d10
(CRY) = Chrysene-d12
(PRY) = Perylene-d12

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Metals

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017061

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18-2	2017061-02	Water	06/11/20
MW-18-1	2017061-03	Water	06/11/20
MW-19-2	2017061-04	Water	06/11/20
MW-19-3	2017061-05	Water	06/11/20
DUP-1-2Q2020	2017061-06	Water	06/11/20
MW-19-5	2017061-07	Water	06/11/20
MW-19-4	2017061-08	Water	06/11/20
EB-3-061120	2017061-09	Water	06/11/20
SB-1-061120	2017061-10	Water	06/11/20
MW-19-1	2017061-11	Water	06/11/20

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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. 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	Arsenic	1.4130 ug/L	MW-18-2 MW-18-1 MW-19-2 MW-19-3
PB (prep blank)	Calcium	0.015070 mg/L	MW-18-2 MW-18-1 MW-19-2 MW-19-3 DUP-1-2Q2020 MW-19-5 MW-19-4 EB-3-061120 SB-1-061120
PB (prep blank)	Potassium	0.10831 mg/L	MW-19-1
ICB/CCB	Potassium	0.12751 ug/L	MW-19-1

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-18-2	Arsenic	1.1 mg/Kg	1.1U mg/Kg
MW-19-3	Arsenic	1.2 mg/Kg	1.2U mg/Kg
EB-3-061120	Calcium	0.040 mg/Kg	0.040U mg/Kg
SB-1-061120	Calcium	0.056 mg/Kg	0.056U mg/Kg

VI. Field Blanks

Sample EB-3-061120 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration
EB-3-061120	06/11/20	Calcium Sodium	0.040 mg/L 0.11 mg/L

Sample SB-1-061120 was identified as a source blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration
SB-1-061120	06/11/20	Calcium Sodium	0.056 mg/L 0.27 mg/L

VII. 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.

VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

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 methods. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-19-3 and DUP-1-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-19-3	DUP-1-2Q2020	
Iron	180 ug/L	92 ug/L	65
Arsenic	1.2 ug/L	0.70 ug/L	Not calculable
Chromium	1.9 ug/L	2.0 ug/L	5
Calcium	90 mg/L	90 mg/L	0
Magnesium	30 mg/L	30 mg/L	0
Sodium	32 mg/L	31 mg/L	3
Potassium	2.6 mg/L	2.6 mg/L	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 methods. No results were rejected in this SDG.

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, 2Q2020
Metals - Data Qualification Summary - SDG 2017061

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2017061

Sample	Analyte	Modified Final Concentration	A or P
MW-18-2	Arsenic	1.1U mg/Kg	A
MW-19-3	Arsenic	1.2U mg/Kg	A
EB-3-061120	Calcium	0.040U mg/Kg	A
SB-1-061120	Calcium	0.056U mg/Kg	A

LDC #: 48646C4a

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/4/2020

SDG #: 2017061

Page: 1 of 1

Laboratory: BC Laboratories, Inc.

Reviewer: DM

2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=9 SB=9
VII.	Matrix Spike/Matrix Spike Duplicates	N	
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(4,5)
XII.	Internal Standard (ICP-MS)	N	NOT REVIEWED
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-18-2	2017061-02	Water	06/11/20
2	MW-18-1	2017061-03	Water	06/11/20
3	MW-19-2	2017061-04	Water	06/11/20
4	MW-19-3	2017061-05	Water	06/11/20
5	DUP-1-2Q2020	2017061-06	Water	06/11/20
6	MW-19-5	2017061-07	Water	06/11/20
7	MW-19-4	2017061-08	Water	06/11/20
8	EB-3-061120	2017061-09	Water	06/11/20
9	SB-1-061120	2017061-10	Water	06/11/20
10	MW-19-1	2017061-11	Water	06/11/20
11				
12				
13				

Notes:

LDC #: 49646C4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
All	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, B, Cd, [✓ Ca], Cr, Co, Cu, [✓ Fe], Pb, Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
ICP-MS	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
GFAA		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Comments: Mercury by CVAA if performed

LDC #: 48646C4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010/6020/7000)
Soil preparation factor applied:
Sample Concentration units, unless otherwise noted: mg/Kg
Associated Samples: 1-4

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**1**	4	~~6~~	~~7~~							
As			1.4130	7.065	1.1	1.2	1.5	~~1.4~~							

Associated Samples: 1-9

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**8**	9									
Ca	0.015070			0.07535	0.040	0.056									

Associated Samples: 10

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**NO QUAL**										
K	0.10831		0.12751	0.63755											

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 #: 48646C4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 6/11/2020
Field blank type: (circle one) Field Blank / Rinsate / Other: EB/SB Associated Samples: X Flag

Analyte	Blank ID	Blank ID	Sample Identification										
	8	9	Action Limit	NO QUAL									
Ca	0.040	0.056											
Na	0.11	0.27											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 48646C4a

VALIDATION FINDINGS WORKSHEET

Field Duplicates

Reviewer: DTM
2nd Reviewer: _____

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

Analyte	Concentration (ug/L)		RPD
	4	5	
Iron	180	92	65
Arsenic	1.2	0.70	NC
Chromium	1.9	2.0	5
Calcium (mg/L)	90	90	0
Magnesium (mg/L)	30	30	0
Sodium (mg/L)	32	31	3
Potassium (mg/L)	2.6	2.6	0

V:\Darionna\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\48646C4a.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017061

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-18-2	2017061-02	Water	06/11/20
MW-18-1	2017061-03	Water	06/11/20
MW-19-2	2017061-04	Water	06/11/20
MW-19-3	2017061-05	Water	06/11/20
DUP-1-2Q2020	2017061-06	Water	06/11/20
MW-19-5	2017061-07	Water	06/11/20
MW-19-4	2017061-08	Water	06/11/20
EB-3-061120	2017061-09	Water	06/11/20
SB-1-061120	2017061-10	Water	06/11/20
MW-19-1	2017061-11	Water	06/11/20
MW-18-2MS	2017061-02MS	Water	06/11/20
MW-18-2MSD	2017061-02MSD	Water	06/11/20
MW-18-2DUP	2017061-02DUP	Water	06/11/20
MW-19-2DUP	2017061-04DUP	Water	06/11/20
DUP-1-2Q2020DUP	2017061-06DUP	Water	06/11/20
MW-19-1DUP	2017061-11DUP	Water	06/11/20

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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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
All samples in SDG 2017061	pH	5 days	2 days	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.

V. Field Blanks

Sample EB-3-061120 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-3-061120	pH Total dissolved solids Hexavalent chromium	4.39 mg/L 4.7 mg/L 0.000040 mg/L

Sample SB-1-061120 was identified as a source blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
SB-1-061120	pH Total dissolved solids Hexavalent chromium Sulfate	4.71 mg/L 4.0 mg/L 0.000056 mg/L 0.16 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-19-3 and DUP-1-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	MW-19-3	DUP-1-2Q2020	
pH	7.69	7.65	1
Total dissolved solids	620	570	8
Hexavalent chromium	0.00089	0.0019	72
Chloride	82	81	1
Nitrate as N	9.5	9.5	0
Sulfate	110	110	0
Perchlorate (ug/L)	3.7	3.9	5
Alkalinity	180	180	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 times, 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, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2017061

Sample	Analyte	Flag	A or P	Reason
MW-18-2 MW-18-1 MW-19-2 MW-19-3 DUP-1-2Q2020 MW-19-5 MW-19-4 EB-3-061120 SB-1-061120 MW-19-1	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2017061

No Sample Data Qualified in this SDG

LDC #: 48646C6 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/14/2020
SDG #: 2017061 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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	A	
V	Field blanks	SW	EB=9, SB=9
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(4,5)
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-18-2	2017061-02	Water	06/11/20
2	MW-18-1	2017061-03	Water	06/11/20
3	MW-19-2	2017061-04	Water	06/11/20
4	MW-19-3	2017061-05	Water	06/11/20
5	DUP-1-2Q2020	2017061-06	Water	06/11/20
6	MW-19-5	2017061-07	Water	06/11/20
7	MW-19-4	2017061-08	Water	06/11/20
8	EB-3-061120	2017061-09	Water	06/11/20
9	SB-1-061120	2017061-10	Water	06/11/20
10	MW-19-1	2017061-11	Water	06/11/20
11	MW-18-2MS	2017061-02MS	Water	06/11/20
12	MW-18-2MSD	2017061-02MSD	Water	06/11/20
13	MW-18-2DUP	2017061-02DUP	Water	06/11/20
14	MW-19-2DUP	2017061-04DUP	Water	06/11/20
15	DUP-1-2Q2020DUP	2017061-06DUP	Water	06/11/20
16	MW-19-1DUP	2017061-11DUP	Water	06/11/20

LDC #: 48646C6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1-10	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 11-13	pH TDS [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 Alk CN NH_3 TKN TOC [✓ Cr6+] ClO_4 [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 14	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 15-16	[✓ 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
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 48646C6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: DTM
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	150.1						
Parameters:	pH						
Technical holding time:	48hrs						
Sample ID	Sampling date	Analysis date	Total Time	Qualifier	Analysis date	Total Time	Qualifier
ALL	6/11/2020	6/16/2020	5days	J/R/P (det)			

LDC #: 48646C6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:**
Sampling date: 6/11/2020 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB/SB Associated Samples: X flag

Analyte	Blank ID	Action Limit	Sample Identification							
	8	9	No Qualifiers							
pH	4.39	4.71								
TDS	4.7	4.0								
Cr6	0.000040	0.000056								
SO4		0.16								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 48646C6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: DTM
2nd Reviewer:

Inorganics, Method See Cover

Analyte	Concentration (mg/L)		RPD
	4	5	
pH	7.69	7.65	1
TDS	620	570	8
Cr6	0.00089	0.0019	72
Chloride	82	81	1
NO3-N	9.5	9.5	0
SO4	110	110	0
Perchlorate (ug/L)	3.7	3.9	5
Alkalinity	180	180	0

V:\Darionna\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\48646C6.wpd

NASA JPL, 2Q2020 - LDC# 48646C

SDG: 2017061

Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-1-2Q2020	2017061-06	pH	6/16/2020	7.65	Y	y	v	J	0.05	0.05	pH Units
EB-3-061120	2017061-09	pH	6/16/2020	4.39	Y	y	v	J	0.05	0.05	pH Units
MW-18-1	2017061-03	pH	6/16/2020	8	Y	y	v	J	0.05	0.05	pH Units
MW-18-2	2017061-02	pH	6/16/2020	7.85	Y	y	v	J	0.05	0.05	pH Units
MW-19-1	2017061-11	pH	6/16/2020	8.18	Y	y	v	J	0.05	0.05	pH Units
MW-19-2	2017061-04	pH	6/16/2020	7.68	Y	y	v	J	0.05	0.05	pH Units
MW-19-3	2017061-05	pH	6/16/2020	7.69	Y	y	v	J	0.05	0.05	pH Units
MW-19-4	2017061-08	pH	6/16/2020	7.78	Y	y	v	J	0.05	0.05	pH Units
MW-19-5	2017061-07	pH	6/16/2020	7.87	Y	y	v	J	0.05	0.05	pH Units
SB-1-061120	2017061-10	pH	6/16/2020	4.71	Y	y	v	J	0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-1-2Q2020	2017061-06	Total Dissolved Solids @ 180 C	6/15/2020	570	Y	y	v		33	17	mg/L
EB-3-061120	2017061-09	Total Dissolved Solids @ 180 C	6/15/2020	4.7	Y	y	v j		6.7	3.3	mg/L
MW-18-1	2017061-03	Total Dissolved Solids @ 180 C	6/15/2020	270	Y	y	v		20	10	mg/L
MW-18-2	2017061-02	Total Dissolved Solids @ 180 C	6/15/2020	270	Y	y	v		20	10	mg/L
MW-19-1	2017061-11	Total Dissolved Solids @ 180 C	6/15/2020	240	Y	y	v		20	10	mg/L
MW-19-2	2017061-04	Total Dissolved Solids @ 180 C	6/15/2020	800	Y	y	v		50	25	mg/L
MW-19-3	2017061-05	Total Dissolved Solids @ 180 C	6/15/2020	620	Y	y	v		33	17	mg/L
MW-19-4	2017061-08	Total Dissolved Solids @ 180 C	6/15/2020	470	Y	y	v		33	17	mg/L
MW-19-5	2017061-07	Total Dissolved Solids @ 180 C	6/15/2020	450	Y	y	v		20	10	mg/L
SB-1-061120	2017061-10	Total Dissolved Solids @ 180 C	6/15/2020	4	Y	y	v j		6.7	3.3	mg/L

SDG: 2017061

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-1-2Q2020	2017061-06	Total Recoverable Calcium	6/17/2020	90	Y	y	v		0.10	0.014	mg/L
DUP-1-2Q2020	2017061-06	Total Recoverable Iron	6/17/2020	92	Y	y	v		50	30	ug/L
DUP-1-2Q2020	2017061-06	Total Recoverable Sodium	6/17/2020	31	Y	y	v		0.50	0.051	mg/L
DUP-1-2Q2020	2017061-06	Total Recoverable Potassium	6/17/2020	2.6	Y	y	v		1.0	0.10	mg/L
DUP-1-2Q2020	2017061-06	Total Recoverable Magnesium	6/17/2020	30	Y	y	v		0.050	0.019	mg/L
EB-3-061120	2017061-09	Total Recoverable Magnesium	6/17/2020	0.05	Y	n	u		0.050	0.019	mg/L
EB-3-061120	2017061-09	Total Recoverable Sodium	6/17/2020	0.11	Y	y	v j		0.50	0.051	mg/L
EB-3-061120	2017061-09	Total Recoverable Iron	6/17/2020	50	Y	n	u		50	30	ug/L
EB-3-061120	2017061-09	Total Recoverable Calcium	6/17/2020	0.04	Y	y	v j	U	0.10	0.014	mg/L
EB-3-061120	2017061-09	Total Recoverable Potassium	6/17/2020	1	Y	n	u		1.0	0.10	mg/L
MW-18-1	2017061-03	Total Recoverable Potassium	6/17/2020	2.7	Y	y	v		1.0	0.10	mg/L
MW-18-1	2017061-03	Total Recoverable Calcium	6/17/2020	45	Y	y	v		0.10	0.014	mg/L
MW-18-1	2017061-03	Total Recoverable Magnesium	6/17/2020	13	Y	y	v		0.050	0.019	mg/L
MW-18-1	2017061-03	Total Recoverable Sodium	6/17/2020	19	Y	y	v		0.50	0.051	mg/L
MW-18-1	2017061-03	Total Recoverable Iron	6/17/2020	43	Y	y	v j		50	30	ug/L
MW-18-2	2017061-02	Total Recoverable Sodium	6/17/2020	21	Y	y	v		0.50	0.051	mg/L
MW-18-2	2017061-02	Total Recoverable Magnesium	6/17/2020	14	Y	y	v		0.050	0.019	mg/L
MW-18-2	2017061-02	Total Recoverable Iron	6/17/2020	68	Y	y	v		50	30	ug/L
MW-18-2	2017061-02	Total Recoverable Calcium	6/17/2020	47	Y	y	v		0.10	0.014	mg/L
MW-18-2	2017061-02	Total Recoverable Potassium	6/17/2020	2.7	Y	y	v		1.0	0.10	mg/L
MW-19-1	2017061-11	Total Recoverable Potassium	6/17/2020	3.3	Y	y	v		1.0	0.10	mg/L
MW-19-1	2017061-11	Total Recoverable Sodium	6/17/2020	29	Y	y	v		0.50	0.051	mg/L
MW-19-1	2017061-11	Total Recoverable Magnesium	6/17/2020	14	Y	y	v		0.050	0.019	mg/L
MW-19-1	2017061-11	Total Recoverable Iron	6/17/2020	440	Y	y	v		50	30	ug/L
MW-19-1	2017061-11	Total Recoverable Calcium	6/17/2020	29	Y	y	v		0.10	0.014	mg/L

SDG: 2017061

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-19-2	2017061-04	Total Recoverable Iron	6/17/2020	640	Y	y	v		50	30	ug/L
MW-19-2	2017061-04	Total Recoverable Magnesium	6/17/2020	44	Y	y	v		0.050	0.019	mg/L
MW-19-2	2017061-04	Total Recoverable Calcium	6/17/2020	130	Y	y	v		0.10	0.014	mg/L
MW-19-2	2017061-04	Total Recoverable Sodium	6/17/2020	36	Y	y	v		0.50	0.051	mg/L
MW-19-2	2017061-04	Total Recoverable Potassium	6/17/2020	3	Y	y	v		1.0	0.10	mg/L
MW-19-3	2017061-05	Total Recoverable Calcium	6/17/2020	90	Y	y	v		0.10	0.014	mg/L
MW-19-3	2017061-05	Total Recoverable Magnesium	6/17/2020	30	Y	y	v		0.050	0.019	mg/L
MW-19-3	2017061-05	Total Recoverable Sodium	6/17/2020	32	Y	y	v		0.50	0.051	mg/L
MW-19-3	2017061-05	Total Recoverable Potassium	6/17/2020	2.6	Y	y	v		1.0	0.10	mg/L
MW-19-3	2017061-05	Total Recoverable Iron	6/17/2020	180	Y	y	v		50	30	ug/L
MW-19-4	2017061-08	Total Recoverable Magnesium	6/17/2020	26	Y	y	v		0.050	0.019	mg/L
MW-19-4	2017061-08	Total Recoverable Sodium	6/17/2020	32	Y	y	v		0.50	0.051	mg/L
MW-19-4	2017061-08	Total Recoverable Iron	6/17/2020	60	Y	y	v		50	30	ug/L
MW-19-4	2017061-08	Total Recoverable Calcium	6/17/2020	78	Y	y	v		0.10	0.014	mg/L
MW-19-4	2017061-08	Total Recoverable Potassium	6/17/2020	2.3	Y	y	v		1.0	0.10	mg/L
MW-19-5	2017061-07	Total Recoverable Sodium	6/17/2020	32	Y	y	v		0.50	0.051	mg/L
MW-19-5	2017061-07	Total Recoverable Calcium	6/17/2020	73	Y	y	v		0.10	0.014	mg/L
MW-19-5	2017061-07	Total Recoverable Iron	6/17/2020	140	Y	y	v		50	30	ug/L
MW-19-5	2017061-07	Total Recoverable Magnesium	6/17/2020	25	Y	y	v		0.050	0.019	mg/L
MW-19-5	2017061-07	Total Recoverable Potassium	6/17/2020	2.4	Y	y	v		1.0	0.10	mg/L
SB-1-061120	2017061-10	Total Recoverable Magnesium	6/17/2020	0.05	Y	n	u		0.050	0.019	mg/L
SB-1-061120	2017061-10	Total Recoverable Potassium	6/17/2020	1	Y	n	u		1.0	0.10	mg/L
SB-1-061120	2017061-10	Total Recoverable Calcium	6/17/2020	0.056	Y	y	v j	U	0.10	0.014	mg/L
SB-1-061120	2017061-10	Total Recoverable Iron	6/17/2020	50	Y	n	u		50	30	ug/L
SB-1-061120	2017061-10	Total Recoverable Sodium	6/17/2020	0.27	Y	y	v j		0.50	0.051	mg/L

SDG: 2017061

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-1-2Q2020	2017061-06	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	ug/L
DUP-1-2Q2020	2017061-06	Total Recoverable Arsenic	6/18/2020	2	Y	n	u		2.0	0.70	ug/L
DUP-1-2Q2020	2017061-06	Total Recoverable Chromium	6/18/2020	2	Y	y	v j		3.0	0.50	ug/L
EB-3-061120	2017061-09	Total Recoverable Chromium	6/18/2020	3	Y	n	u		3.0	0.50	ug/L
EB-3-061120	2017061-09	Total Recoverable Arsenic	6/18/2020	2	Y	n	u		2.0	0.70	ug/L
EB-3-061120	2017061-09	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	ug/L
MW-18-1	2017061-03	Total Recoverable Arsenic	6/17/2020	2	Y	n	u		2.0	0.70	ug/L
MW-18-1	2017061-03	Total Recoverable Lead	6/17/2020	1	Y	n	u		1.0	0.10	ug/L
MW-18-1	2017061-03	Total Recoverable Chromium	6/17/2020	3	Y	n	u		3.0	0.50	ug/L
MW-18-2	2017061-02	Total Recoverable Chromium	6/17/2020	3	Y	n	u		3.0	0.50	ug/L
MW-18-2	2017061-02	Total Recoverable Lead	6/17/2020	1	Y	n	u		1.0	0.10	ug/L
MW-18-2	2017061-02	Total Recoverable Arsenic	6/17/2020	1.1	Y	y	v j	U	2.0	0.70	ug/L
MW-19-1	2017061-11	Total Recoverable Arsenic	6/18/2020	2	Y	n	u		2.0	0.70	ug/L
MW-19-1	2017061-11	Total Recoverable Chromium	6/18/2020	3	Y	n	u		3.0	0.50	ug/L
MW-19-1	2017061-11	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	ug/L
MW-19-2	2017061-04	Total Recoverable Lead	6/17/2020	1	Y	n	u		1.0	0.10	ug/L
MW-19-2	2017061-04	Total Recoverable Arsenic	6/17/2020	2	Y	n	u		2.0	0.70	ug/L
MW-19-2	2017061-04	Total Recoverable Chromium	6/17/2020	1.3	Y	y	v j		3.0	0.50	ug/L
MW-19-3	2017061-05	Total Recoverable Lead	6/17/2020	1	Y	n	u		1.0	0.10	ug/L
MW-19-3	2017061-05	Total Recoverable Chromium	6/17/2020	1.9	Y	y	v j		3.0	0.50	ug/L
MW-19-3	2017061-05	Total Recoverable Arsenic	6/17/2020	1.2	Y	y	v j	U	2.0	0.70	ug/L
MW-19-4	2017061-08	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	ug/L
MW-19-4	2017061-08	Total Recoverable Chromium	6/18/2020	2.2	Y	y	v j		3.0	0.50	ug/L
MW-19-4	2017061-08	Total Recoverable Arsenic	6/18/2020	1.4	Y	y	v j		2.0	0.70	ug/L
MW-19-5	2017061-07	Total Recoverable Chromium	6/18/2020	2	Y	y	v j		3.0	0.50	ug/L

SDG: 2017061

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-19-5	2017061-07	Total Recoverable Arsenic	6/18/2020	1.5	Y	y	v j		2.0	0.70	ug/L
MW-19-5	2017061-07	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	ug/L
SB-1-061120	2017061-10	Total Recoverable Arsenic	6/18/2020	2	Y	n	u		2.0	0.70	ug/L
SB-1-061120	2017061-10	Total Recoverable Chromium	6/18/2020	3	Y	n	u		3.0	0.50	ug/L
SB-1-061120	2017061-10	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	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
DUP-1-2Q2020	2017061-06	Hexavalent Chromium	6/16/2020	0.0019	Y	y	v		0.0002	0.00003	mg/L
EB-3-061120	2017061-09	Hexavalent Chromium	6/16/2020	0.00004	Y	y	v j		0.0002	0.00003	mg/L
MW-18-1	2017061-03	Hexavalent Chromium	6/16/2020	0.0002	Y	y	v		0.0002	0.00003	mg/L
MW-18-2	2017061-02	Hexavalent Chromium	6/16/2020	######	Y	y	v j		0.0002	0.00003	mg/L
MW-19-1	2017061-11	Hexavalent Chromium	6/16/2020	0.0002	Y	n	u		0.0002	0.00003	mg/L
MW-19-2	2017061-04	Hexavalent Chromium	6/16/2020	0.0016	Y	y	v		0.0002	0.00003	mg/L
MW-19-3	2017061-05	Hexavalent Chromium	6/16/2020	0.00089	Y	y	v		0.0002	0.00003	mg/L
MW-19-4	2017061-08	Hexavalent Chromium	6/16/2020	0.0026	Y	y	v		0.0002	0.00003	mg/L
MW-19-5	2017061-07	Hexavalent Chromium	6/16/2020	0.0022	Y	y	v		0.0002	0.00003	mg/L
SB-1-061120	2017061-10	Hexavalent Chromium	6/16/2020	######	Y	y	v j		0.0002	0.00003	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
DUP-1-2Q2020	2017061-06	Sulfate	6/12/2020	110	Y	y	v		1.0	0.14	mg/L
DUP-1-2Q2020	2017061-06	Nitrate as N	6/12/2020	9.5	Y	y	v		0.10	0.024	mg/L
DUP-1-2Q2020	2017061-06	Chloride	6/12/2020	81	Y	y	v		0.50	0.13	mg/L
EB-3-061120	2017061-09	Sulfate	6/12/2020	1	Y	n	u		1.0	0.14	mg/L
EB-3-061120	2017061-09	Nitrate as N	6/12/2020	0.1	Y	n	u		0.10	0.024	mg/L

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Analytical Method EPA-300.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-3-061120	2017061-09	Chloride	6/12/2020	0.5	Y	n	u		0.50	0.13	mg/L
MW-18-1	2017061-03	Sulfate	6/11/2020	32	Y	y	v		1.0	0.14	mg/L
MW-18-1	2017061-03	Chloride	6/11/2020	8	Y	y	v		0.50	0.13	mg/L
MW-18-1	2017061-03	Nitrate as N	6/11/2020	1.1	Y	y	v		0.10	0.024	mg/L
MW-18-2	2017061-02	Sulfate	6/11/2020	30	Y	y	v		1.0	0.14	mg/L
MW-18-2	2017061-02	Nitrate as N	6/11/2020	0.34	Y	y	v		0.10	0.024	mg/L
MW-18-2	2017061-02	Chloride	6/11/2020	8.2	Y	y	v		0.50	0.13	mg/L
MW-19-1	2017061-11	Chloride	6/12/2020	21	Y	y	v		0.50	0.13	mg/L
MW-19-1	2017061-11	Nitrate as N	6/12/2020	0.47	Y	y	v		0.10	0.024	mg/L
MW-19-1	2017061-11	Sulfate	6/12/2020	27	Y	y	v		1.0	0.14	mg/L
MW-19-2	2017061-04	Nitrate as N	6/11/2020	11	Y	y	v		0.10	0.024	mg/L
MW-19-2	2017061-04	Sulfate	6/11/2020	160	Y	y	v		1.0	0.14	mg/L
MW-19-2	2017061-04	Chloride	6/11/2020	130	Y	y	v		0.50	0.13	mg/L
MW-19-3	2017061-05	Chloride	6/11/2020	82	Y	y	v		0.50	0.13	mg/L
MW-19-3	2017061-05	Nitrate as N	6/11/2020	9.5	Y	y	v		0.10	0.024	mg/L
MW-19-3	2017061-05	Sulfate	6/11/2020	110	Y	y	v		1.0	0.14	mg/L
MW-19-4	2017061-08	Sulfate	6/12/2020	77	Y	y	v		1.0	0.14	mg/L
MW-19-4	2017061-08	Nitrate as N	6/12/2020	8.4	Y	y	v		0.10	0.024	mg/L
MW-19-4	2017061-08	Chloride	6/12/2020	62	Y	y	v		0.50	0.13	mg/L
MW-19-5	2017061-07	Sulfate	6/12/2020	66	Y	y	v		1.0	0.14	mg/L
MW-19-5	2017061-07	Nitrate as N	6/12/2020	7.9	Y	y	v		0.10	0.024	mg/L
MW-19-5	2017061-07	Chloride	6/12/2020	55	Y	y	v		0.50	0.13	mg/L
SB-1-061120	2017061-10	Nitrate as N	6/12/2020	0.1	Y	n	u		0.10	0.024	mg/L
SB-1-061120	2017061-10	Sulfate	6/12/2020	0.16	Y	y	v j		1.0	0.14	mg/L
SB-1-061120	2017061-10	Chloride	6/12/2020	0.5	Y	n	u		0.50	0.13	mg/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**
DUP-1-2Q2020	2017061-06	Perchlorate	6/17/2020	3.9	Y	y	v j		4.0	0.76	ug/L
EB-3-061120	2017061-09	Perchlorate	6/18/2020	4	Y	n	u		4.0	0.76	ug/L
MW-18-1	2017061-03	Perchlorate	6/17/2020	4	Y	n	u		4.0	0.76	ug/L
MW-18-2	2017061-02	Perchlorate	6/17/2020	4	Y	n	u		4.0	0.76	ug/L
MW-19-1	2017061-11	Perchlorate	6/18/2020	4	Y	n	u		4.0	0.76	ug/L
MW-19-2	2017061-04	Perchlorate	6/17/2020	3.3	Y	y	v j		4.0	0.76	ug/L
MW-19-3	2017061-05	Perchlorate	6/25/2020	3.7	Y	y	v j		4.0	0.81	ug/L
MW-19-4	2017061-08	Perchlorate	6/17/2020	3.6	Y	y	v j		4.0	0.76	ug/L
MW-19-5	2017061-07	Perchlorate	6/17/2020	2.7	Y	y	v j		4.0	0.76	ug/L
SB-1-061120	2017061-10	Perchlorate	6/18/2020	4	Y	n	u		4.0	0.76	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**
DUP-1-2Q2020	2017061-06	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
EB-3-061120	2017061-09	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-18-1	2017061-03	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-18-2	2017061-02	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-19-1	2017061-11	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-19-2	2017061-04	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-19-3	2017061-05	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-19-4	2017061-08	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-19-5	2017061-07	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	mg/L
SB-1-061120	2017061-10	Nitrite as N	6/11/2020	0.05	Y	n	u		0.050	0.010	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**

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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-1-2Q2020	2017061-06	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-1-2Q2020	2017061-06	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-1-2Q2020	2017061-06	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-1-2Q2020	2017061-06	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
DUP-1-2Q2020	2017061-06	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-1-2Q2020	2017061-06	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-1-2Q2020	2017061-06	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-1-2Q2020	2017061-06	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-1-2Q2020	2017061-06	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-1-2Q2020	2017061-06	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-1-2Q2020	2017061-06	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
DUP-1-2Q2020	2017061-06	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-1-2Q2020	2017061-06	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-1-2Q2020	2017061-06	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-1-2Q2020	2017061-06	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-1-2Q2020	2017061-06	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
DUP-1-2Q2020	2017061-06	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-1-2Q2020	2017061-06	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-1-2Q2020	2017061-06	Chloroform	6/12/2020	1.9	Y	y	v		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-1-2Q2020	2017061-06	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-1-2Q2020	2017061-06	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-1-2Q2020	2017061-06	cis-1,2-Dichloroethene	6/12/2020	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
DUP-1-2Q2020	2017061-06	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-1-2Q2020	2017061-06	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-1-2Q2020	2017061-06	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-1-2Q2020	2017061-06	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
DUP-1-2Q2020	2017061-06	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-1-2Q2020	2017061-06	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-1-2Q2020	2017061-06	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-1-2Q2020	2017061-06	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
DUP-1-2Q2020	2017061-06	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-1-2Q2020	2017061-06	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-1-2Q2020	2017061-06	Trichloroethene	6/12/2020	0.22	Y	y	v j		0.50	0.19	ug/L
DUP-1-2Q2020	2017061-06	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
DUP-1-2Q2020	2017061-06	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-1-2Q2020	2017061-06	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-1-2Q2020	2017061-06	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-1-2Q2020	2017061-06	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
DUP-1-2Q2020	2017061-06	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
DUP-1-2Q2020	2017061-06	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
DUP-1-2Q2020	2017061-06	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
DUP-1-2Q2020	2017061-06	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
DUP-1-2Q2020	2017061-06	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
DUP-1-2Q2020	2017061-06	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
DUP-1-2Q2020	2017061-06	2-Nitropropane	6/12/2020	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-1-2Q2020	2017061-06	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
DUP-1-2Q2020	2017061-06	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-1-2Q2020	2017061-06	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-1-2Q2020	2017061-06	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
DUP-1-2Q2020	2017061-06	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
DUP-1-2Q2020	2017061-06	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
DUP-1-2Q2020	2017061-06	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
DUP-1-2Q2020	2017061-06	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
DUP-1-2Q2020	2017061-06	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
DUP-1-2Q2020	2017061-06	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
DUP-1-2Q2020	2017061-06	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
DUP-1-2Q2020	2017061-06	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-1-2Q2020	2017061-06	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-1-2Q2020	2017061-06	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
DUP-1-2Q2020	2017061-06	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-1-2Q2020	2017061-06	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-1-2Q2020	2017061-06	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-1-2Q2020	2017061-06	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
DUP-1-2Q2020	2017061-06	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
DUP-1-2Q2020	2017061-06	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
DUP-1-2Q2020	2017061-06	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
DUP-1-2Q2020	2017061-06	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
DUP-1-2Q2020	2017061-06	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
DUP-1-2Q2020	2017061-06	Toluene-d8 (Surrogate)	6/12/2020	10	Y	y	v s				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-1-2Q2020	2017061-06	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.9	Y	y	v s				ug/L
DUP-1-2Q2020	2017061-06	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-1-2Q2020	2017061-06	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-1-2Q2020	2017061-06	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-1-2Q2020	2017061-06	Tetrachloroethene	6/12/2020	0.53	Y	y	v		0.50	0.23	ug/L
DUP-1-2Q2020	2017061-06	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-1-2Q2020	2017061-06	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-1-2Q2020	2017061-06	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-1-2Q2020	2017061-06	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-1-2Q2020	2017061-06	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
DUP-1-2Q2020	2017061-06	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-1-2Q2020	2017061-06	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-1-2Q2020	2017061-06	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-3-061120	2017061-09	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-3-061120	2017061-09	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-3-061120	2017061-09	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-3-061120	2017061-09	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-3-061120	2017061-09	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-3-061120	2017061-09	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-3-061120	2017061-09	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-3-061120	2017061-09	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-3-061120	2017061-09	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-3-061120	2017061-09	1,2-Dichloropropane	6/12/2020	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-3-061120	2017061-09	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-3-061120	2017061-09	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-3-061120	2017061-09	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-3-061120	2017061-09	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-3-061120	2017061-09	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-3-061120	2017061-09	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-3-061120	2017061-09	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-3-061120	2017061-09	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-3-061120	2017061-09	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-3-061120	2017061-09	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-3-061120	2017061-09	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-3-061120	2017061-09	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-3-061120	2017061-09	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-3-061120	2017061-09	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-3-061120	2017061-09	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-3-061120	2017061-09	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-3-061120	2017061-09	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-3-061120	2017061-09	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-3-061120	2017061-09	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-3-061120	2017061-09	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-3-061120	2017061-09	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-3-061120	2017061-09	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-3-061120	2017061-09	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-3-061120	2017061-09	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-3-061120	2017061-09	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L

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EB-3-061120	2017061-09	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
EB-3-061120	2017061-09	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-3-061120	2017061-09	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-3-061120	2017061-09	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
EB-3-061120	2017061-09	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
EB-3-061120	2017061-09	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
EB-3-061120	2017061-09	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
EB-3-061120	2017061-09	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-3-061120	2017061-09	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-3-061120	2017061-09	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
EB-3-061120	2017061-09	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
EB-3-061120	2017061-09	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
EB-3-061120	2017061-09	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
EB-3-061120	2017061-09	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
EB-3-061120	2017061-09	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
EB-3-061120	2017061-09	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
EB-3-061120	2017061-09	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-3-061120	2017061-09	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
EB-3-061120	2017061-09	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-3-061120	2017061-09	Toluene-d8 (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
EB-3-061120	2017061-09	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
EB-3-061120	2017061-09	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
EB-3-061120	2017061-09	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
EB-3-061120	2017061-09	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
EB-3-061120	2017061-09	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L

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EB-3-061120	2017061-09	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
EB-3-061120	2017061-09	Chloroform	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-3-061120	2017061-09	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
EB-3-061120	2017061-09	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
EB-3-061120	2017061-09	Tetrachloroethene	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-3-061120	2017061-09	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.6	Y	y	v s				ug/L
EB-3-061120	2017061-09	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
EB-3-061120	2017061-09	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
EB-3-061120	2017061-09	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-3-061120	2017061-09	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-3-061120	2017061-09	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-3-061120	2017061-09	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-3-061120	2017061-09	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-3-061120	2017061-09	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-3-061120	2017061-09	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
EB-3-061120	2017061-09	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-3-061120	2017061-09	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-3-061120	2017061-09	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
EB-3-061120	2017061-09	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-3-061120	2017061-09	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-3-061120	2017061-09	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-3-061120	2017061-09	Trichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-3-061120	2017061-09	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
EB-3-061120	2017061-09	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
EB-3-061120	2017061-09	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L

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EB-3-061120	2017061-09	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-3-061120	2017061-09	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-3-061120	2017061-09	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-3-061120	2017061-09	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
EB-3-061120	2017061-09	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.5	Y	y	v s				ug/L
MW-18-1	2017061-03	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-1	2017061-03	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-1	2017061-03	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
MW-18-1	2017061-03	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
MW-18-1	2017061-03	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-1	2017061-03	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-1	2017061-03	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
MW-18-1	2017061-03	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
MW-18-1	2017061-03	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
MW-18-1	2017061-03	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
MW-18-1	2017061-03	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-1	2017061-03	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-18-1	2017061-03	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-1	2017061-03	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
MW-18-1	2017061-03	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-1	2017061-03	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-18-1	2017061-03	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L

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MW-18-1	2017061-03	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-1	2017061-03	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-1	2017061-03	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-1	2017061-03	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-1	2017061-03	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-1	2017061-03	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-1	2017061-03	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
MW-18-1	2017061-03	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-1	2017061-03	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-1	2017061-03	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-1	2017061-03	Chloroform	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-1	2017061-03	Trichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-1	2017061-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-1	2017061-03	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
MW-18-1	2017061-03	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-1	2017061-03	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-1	2017061-03	Toluene-d8 (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-18-1	2017061-03	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
MW-18-1	2017061-03	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-1	2017061-03	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-1	2017061-03	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-1	2017061-03	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-18-1	2017061-03	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-1	2017061-03	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-1	2017061-03	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-1	2017061-03	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
MW-18-1	2017061-03	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-1	2017061-03	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-1	2017061-03	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-18-1	2017061-03	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-1	2017061-03	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-1	2017061-03	Tetrachloroethene	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-1	2017061-03	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-1	2017061-03	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-1	2017061-03	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-1	2017061-03	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-1	2017061-03	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-18-1	2017061-03	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-1	2017061-03	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-1	2017061-03	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-18-1	2017061-03	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
MW-18-1	2017061-03	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
MW-18-1	2017061-03	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-1	2017061-03	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L

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MW-18-1	2017061-03	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-1	2017061-03	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-1	2017061-03	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-1	2017061-03	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-1	2017061-03	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-1	2017061-03	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-1	2017061-03	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-18-1	2017061-03	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
MW-18-1	2017061-03	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-1	2017061-03	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-1	2017061-03	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-1	2017061-03	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-1	2017061-03	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-1	2017061-03	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-18-1	2017061-03	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-1	2017061-03	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
MW-18-1	2017061-03	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
MW-18-1	2017061-03	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
MW-18-1	2017061-03	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
MW-18-1	2017061-03	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
MW-18-2	2017061-02	Toluene-d8 (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-18-2	2017061-02	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-18-2	2017061-02	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
MW-18-2	2017061-02	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-18-2	2017061-02	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L

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MW-18-2	2017061-02	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.6	Y	y	v s				ug/L
MW-18-2	2017061-02	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-2	2017061-02	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2017061-02	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2017061-02	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2017061-02	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-2	2017061-02	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2017061-02	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-2	2017061-02	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2017061-02	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2017061-02	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2017061-02	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2017061-02	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
MW-18-2	2017061-02	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
MW-18-2	2017061-02	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
MW-18-2	2017061-02	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
MW-18-2	2017061-02	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
MW-18-2	2017061-02	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
MW-18-2	2017061-02	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
MW-18-2	2017061-02	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
MW-18-2	2017061-02	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
MW-18-2	2017061-02	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-2	2017061-02	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
MW-18-2	2017061-02	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
MW-18-2	2017061-02	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L

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MW-18-2	2017061-02	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2017061-02	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
MW-18-2	2017061-02	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2017061-02	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-18-2	2017061-02	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-18-2	2017061-02	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
MW-18-2	2017061-02	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-2	2017061-02	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-2	2017061-02	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
MW-18-2	2017061-02	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
MW-18-2	2017061-02	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-18-2	2017061-02	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2017061-02	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-18-2	2017061-02	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-18-2	2017061-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2017061-02	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-2	2017061-02	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2017061-02	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-2	2017061-02	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
MW-18-2	2017061-02	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
MW-18-2	2017061-02	Chloroform	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2017061-02	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2017061-02	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-2	2017061-02	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-18-2	2017061-02	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L

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MW-18-2	2017061-02	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2017061-02	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-18-2	2017061-02	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2017061-02	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2017061-02	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2017061-02	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2017061-02	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-2	2017061-02	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-18-2	2017061-02	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
MW-18-2	2017061-02	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-18-2	2017061-02	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-2	2017061-02	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2017061-02	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2017061-02	Tetrachloroethene	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-18-2	2017061-02	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2017061-02	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2017061-02	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2017061-02	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-18-2	2017061-02	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2017061-02	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2017061-02	Trichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-18-2	2017061-02	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-18-2	2017061-02	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
MW-18-2	2017061-02	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-18-2	2017061-02	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-18-2	2017061-02	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-18-2	2017061-02	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-18-2	2017061-02	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-18-2	2017061-02	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-2	2017061-02	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
MW-18-2	2017061-02	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
MW-18-2	2017061-02	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
MW-18-2	2017061-02	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-18-2	2017061-02	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-18-2	2017061-02	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-19-1	2017061-11	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
MW-19-1	2017061-11	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
MW-19-1	2017061-11	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
MW-19-1	2017061-11	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-19-1	2017061-11	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
MW-19-1	2017061-11	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-1	2017061-11	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-1	2017061-11	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-1	2017061-11	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-1	2017061-11	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-1	2017061-11	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
MW-19-1	2017061-11	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-1	2017061-11	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-1	2017061-11	Trichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-1	2017061-11	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L

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MW-19-1	2017061-11	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-19-1	2017061-11	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-1	2017061-11	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-19-1	2017061-11	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-1	2017061-11	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-1	2017061-11	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
MW-19-1	2017061-11	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
MW-19-1	2017061-11	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-1	2017061-11	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-19-1	2017061-11	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
MW-19-1	2017061-11	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-1	2017061-11	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-19-1	2017061-11	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
MW-19-1	2017061-11	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-19-1	2017061-11	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-1	2017061-11	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
MW-19-1	2017061-11	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
MW-19-1	2017061-11	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
MW-19-1	2017061-11	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
MW-19-1	2017061-11	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-1	2017061-11	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-1	2017061-11	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-19-1	2017061-11	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-1	2017061-11	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-1	2017061-11	Chloroform	6/12/2020	0.62	Y	y	v		0.50	0.14	ug/L

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MW-19-1	2017061-11	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-1	2017061-11	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-1	2017061-11	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-1	2017061-11	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-1	2017061-11	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-1	2017061-11	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-1	2017061-11	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-1	2017061-11	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-19-1	2017061-11	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-1	2017061-11	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-1	2017061-11	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-1	2017061-11	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-1	2017061-11	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-1	2017061-11	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
MW-19-1	2017061-11	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
MW-19-1	2017061-11	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
MW-19-1	2017061-11	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-19-1	2017061-11	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-1	2017061-11	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
MW-19-1	2017061-11	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
MW-19-1	2017061-11	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.8	Y	y	v s				ug/L
MW-19-1	2017061-11	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
MW-19-1	2017061-11	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-1	2017061-11	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
MW-19-1	2017061-11	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L

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MW-19-1	2017061-11	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-1	2017061-11	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-1	2017061-11	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-1	2017061-11	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-1	2017061-11	Tetrachloroethene	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-19-1	2017061-11	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-1	2017061-11	Toluene-d8 (Surrogate)	6/12/2020	9.9	Y	y	v s				ug/L
MW-19-1	2017061-11	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-1	2017061-11	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-1	2017061-11	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-1	2017061-11	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-1	2017061-11	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-1	2017061-11	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-1	2017061-11	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-1	2017061-11	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-1	2017061-11	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
MW-19-1	2017061-11	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-1	2017061-11	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-1	2017061-11	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-1	2017061-11	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-1	2017061-11	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-1	2017061-11	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-1	2017061-11	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-1	2017061-11	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
MW-19-1	2017061-11	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-19-2	2017061-04	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
MW-19-2	2017061-04	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-2	2017061-04	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-2	2017061-04	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-2	2017061-04	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-2	2017061-04	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-2	2017061-04	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-2	2017061-04	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-2	2017061-04	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-2	2017061-04	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-2	2017061-04	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-2	2017061-04	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-2	2017061-04	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-2	2017061-04	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-2	2017061-04	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-2	2017061-04	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-2	2017061-04	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-2	2017061-04	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-2	2017061-04	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-2	2017061-04	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-2	2017061-04	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-19-2	2017061-04	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
MW-19-2	2017061-04	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-2	2017061-04	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-2	2017061-04	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L

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MW-19-2	2017061-04	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-2	2017061-04	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-2	2017061-04	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-2	2017061-04	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-19-2	2017061-04	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-2	2017061-04	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-2	2017061-04	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-2	2017061-04	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-2	2017061-04	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-2	2017061-04	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-2	2017061-04	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-19-2	2017061-04	Chloroform	6/12/2020	1.3	Y	y	v		0.50	0.14	ug/L
MW-19-2	2017061-04	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-2	2017061-04	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-2	2017061-04	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-19-2	2017061-04	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-2	2017061-04	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
MW-19-2	2017061-04	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-2	2017061-04	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-19-2	2017061-04	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-2	2017061-04	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-2	2017061-04	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-19-2	2017061-04	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-2	2017061-04	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-19-2	2017061-04	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L

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MW-19-2	2017061-04	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
MW-19-2	2017061-04	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
MW-19-2	2017061-04	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
MW-19-2	2017061-04	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
MW-19-2	2017061-04	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
MW-19-2	2017061-04	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-19-2	2017061-04	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
MW-19-2	2017061-04	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-19-2	2017061-04	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-2	2017061-04	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.8	Y	y	v s				ug/L
MW-19-2	2017061-04	Toluene-d8 (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-2	2017061-04	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-2	2017061-04	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
MW-19-2	2017061-04	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-2	2017061-04	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-2	2017061-04	Tetrachloroethene	6/12/2020	1.3	Y	y	v		0.50	0.23	ug/L
MW-19-2	2017061-04	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-2	2017061-04	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-2	2017061-04	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-19-2	2017061-04	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L

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MW-19-2	2017061-04	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-2	2017061-04	Trichloroethene	6/12/2020	0.57	Y	y	v		0.50	0.19	ug/L
MW-19-2	2017061-04	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-2	2017061-04	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
MW-19-2	2017061-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-2	2017061-04	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-2	2017061-04	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-2	2017061-04	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
MW-19-2	2017061-04	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
MW-19-2	2017061-04	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
MW-19-2	2017061-04	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-2	2017061-04	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
MW-19-2	2017061-04	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
MW-19-2	2017061-04	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
MW-19-3	2017061-05	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
MW-19-3	2017061-05	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
MW-19-3	2017061-05	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-3	2017061-05	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-3	2017061-05	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
MW-19-3	2017061-05	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
MW-19-3	2017061-05	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
MW-19-3	2017061-05	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
MW-19-3	2017061-05	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
MW-19-3	2017061-05	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L

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MW-19-3	2017061-05	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
MW-19-3	2017061-05	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
MW-19-3	2017061-05	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-19-3	2017061-05	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-19-3	2017061-05	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.7	Y	y	v s				ug/L
MW-19-3	2017061-05	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-3	2017061-05	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
MW-19-3	2017061-05	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
MW-19-3	2017061-05	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
MW-19-3	2017061-05	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
MW-19-3	2017061-05	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
MW-19-3	2017061-05	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
MW-19-3	2017061-05	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
MW-19-3	2017061-05	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
MW-19-3	2017061-05	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-3	2017061-05	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-3	2017061-05	Tetrachloroethene	6/12/2020	0.71	Y	y	v		0.50	0.23	ug/L
MW-19-3	2017061-05	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-3	2017061-05	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-3	2017061-05	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-19-3	2017061-05	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-3	2017061-05	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-3	2017061-05	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-19-3	2017061-05	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-3	2017061-05	Toluene-d8 (Surrogate)	6/12/2020	9.9	Y	y	v s				ug/L

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MW-19-3	2017061-05	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-3	2017061-05	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-3	2017061-05	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-3	2017061-05	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
MW-19-3	2017061-05	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
MW-19-3	2017061-05	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-3	2017061-05	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
MW-19-3	2017061-05	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
MW-19-3	2017061-05	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-19-3	2017061-05	Trichloroethene	6/12/2020	0.27	Y	y	v j		0.50	0.19	ug/L
MW-19-3	2017061-05	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-3	2017061-05	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-3	2017061-05	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-19-3	2017061-05	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-3	2017061-05	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-19-3	2017061-05	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-3	2017061-05	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
MW-19-3	2017061-05	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-3	2017061-05	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-3	2017061-05	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-3	2017061-05	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-3	2017061-05	Chloroform	6/12/2020	2.1	Y	y	v		0.50	0.14	ug/L
MW-19-3	2017061-05	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-19-3	2017061-05	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-3	2017061-05	Carbon tetrachloride	6/12/2020	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-19-3	2017061-05	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-3	2017061-05	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-3	2017061-05	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-3	2017061-05	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-3	2017061-05	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-19-3	2017061-05	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-3	2017061-05	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-3	2017061-05	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-3	2017061-05	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-3	2017061-05	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-3	2017061-05	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-3	2017061-05	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-3	2017061-05	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-3	2017061-05	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-19-3	2017061-05	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-3	2017061-05	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-3	2017061-05	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-3	2017061-05	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-3	2017061-05	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-3	2017061-05	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-3	2017061-05	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-3	2017061-05	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-3	2017061-05	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-3	2017061-05	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-3	2017061-05	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L

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MW-19-3	2017061-05	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-3	2017061-05	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-3	2017061-05	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-3	2017061-05	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-3	2017061-05	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-4	2017061-08	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-4	2017061-08	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-4	2017061-08	Chloroform	6/12/2020	1.7	Y	y	v		0.50	0.14	ug/L
MW-19-4	2017061-08	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-4	2017061-08	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-4	2017061-08	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-19-4	2017061-08	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
MW-19-4	2017061-08	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-4	2017061-08	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-19-4	2017061-08	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-19-4	2017061-08	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-4	2017061-08	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-4	2017061-08	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-4	2017061-08	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-4	2017061-08	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-4	2017061-08	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-4	2017061-08	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-4	2017061-08	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-4	2017061-08	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-4	2017061-08	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-19-4	2017061-08	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-4	2017061-08	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-4	2017061-08	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
MW-19-4	2017061-08	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
MW-19-4	2017061-08	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
MW-19-4	2017061-08	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-4	2017061-08	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-19-4	2017061-08	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
MW-19-4	2017061-08	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-19-4	2017061-08	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-4	2017061-08	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
MW-19-4	2017061-08	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
MW-19-4	2017061-08	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-4	2017061-08	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
MW-19-4	2017061-08	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
MW-19-4	2017061-08	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
MW-19-4	2017061-08	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-4	2017061-08	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-4	2017061-08	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-19-4	2017061-08	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-4	2017061-08	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
MW-19-4	2017061-08	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
MW-19-4	2017061-08	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
MW-19-4	2017061-08	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
MW-19-4	2017061-08	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L

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MW-19-4	2017061-08	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
MW-19-4	2017061-08	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
MW-19-4	2017061-08	Toluene-d8 (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-4	2017061-08	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
MW-19-4	2017061-08	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-4	2017061-08	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-19-4	2017061-08	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-19-4	2017061-08	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
MW-19-4	2017061-08	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-4	2017061-08	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
MW-19-4	2017061-08	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
MW-19-4	2017061-08	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-4	2017061-08	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-4	2017061-08	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-4	2017061-08	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-4	2017061-08	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-4	2017061-08	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-4	2017061-08	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-4	2017061-08	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-4	2017061-08	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-4	2017061-08	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-4	2017061-08	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-4	2017061-08	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-4	2017061-08	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-4	2017061-08	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-19-4	2017061-08	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-4	2017061-08	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
MW-19-4	2017061-08	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-4	2017061-08	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-4	2017061-08	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
MW-19-4	2017061-08	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-4	2017061-08	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-4	2017061-08	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-4	2017061-08	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-4	2017061-08	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-19-4	2017061-08	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-4	2017061-08	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-4	2017061-08	Tetrachloroethene	6/12/2020	0.39	Y	y	v j		0.50	0.23	ug/L
MW-19-4	2017061-08	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-4	2017061-08	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-4	2017061-08	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-4	2017061-08	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-4	2017061-08	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-19-4	2017061-08	Trichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-4	2017061-08	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-5	2017061-07	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-5	2017061-07	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-5	2017061-07	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
MW-19-5	2017061-07	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
MW-19-5	2017061-07	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-19-5	2017061-07	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
MW-19-5	2017061-07	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-5	2017061-07	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-5	2017061-07	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
MW-19-5	2017061-07	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-19-5	2017061-07	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
MW-19-5	2017061-07	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-5	2017061-07	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
MW-19-5	2017061-07	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-5	2017061-07	Trichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-5	2017061-07	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-5	2017061-07	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-19-5	2017061-07	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-5	2017061-07	Tetrachloroethene	6/12/2020	0.32	Y	y	v j		0.50	0.23	ug/L
MW-19-5	2017061-07	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-19-5	2017061-07	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
MW-19-5	2017061-07	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-5	2017061-07	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
MW-19-5	2017061-07	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
MW-19-5	2017061-07	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
MW-19-5	2017061-07	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
MW-19-5	2017061-07	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
MW-19-5	2017061-07	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
MW-19-5	2017061-07	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-5	2017061-07	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.7	Y	y	v s				ug/L

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MW-19-5	2017061-07	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-5	2017061-07	Toluene-d8 (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
MW-19-5	2017061-07	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
MW-19-5	2017061-07	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
MW-19-5	2017061-07	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
MW-19-5	2017061-07	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
MW-19-5	2017061-07	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
MW-19-5	2017061-07	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
MW-19-5	2017061-07	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
MW-19-5	2017061-07	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
MW-19-5	2017061-07	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
MW-19-5	2017061-07	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-5	2017061-07	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-19-5	2017061-07	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-19-5	2017061-07	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-5	2017061-07	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-5	2017061-07	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-19-5	2017061-07	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-5	2017061-07	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
MW-19-5	2017061-07	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-19-5	2017061-07	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-19-5	2017061-07	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-5	2017061-07	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-5	2017061-07	Chloroform	6/12/2020	1.3	Y	y	v		0.50	0.14	ug/L
MW-19-5	2017061-07	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L

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MW-19-5	2017061-07	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-5	2017061-07	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-5	2017061-07	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-5	2017061-07	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-5	2017061-07	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-5	2017061-07	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-5	2017061-07	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-19-5	2017061-07	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-5	2017061-07	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-5	2017061-07	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-19-5	2017061-07	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-5	2017061-07	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-5	2017061-07	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-5	2017061-07	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-5	2017061-07	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-5	2017061-07	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-5	2017061-07	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-5	2017061-07	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-19-5	2017061-07	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-5	2017061-07	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-19-5	2017061-07	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-19-5	2017061-07	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-19-5	2017061-07	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-5	2017061-07	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-19-5	2017061-07	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-19-5	2017061-07	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-19-5	2017061-07	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-19-5	2017061-07	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-19-5	2017061-07	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-5	2017061-07	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-5	2017061-07	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-5	2017061-07	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-19-5	2017061-07	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-19-5	2017061-07	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-19-5	2017061-07	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
SB-1-061120	2017061-10	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
SB-1-061120	2017061-10	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
SB-1-061120	2017061-10	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
SB-1-061120	2017061-10	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
SB-1-061120	2017061-10	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
SB-1-061120	2017061-10	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
SB-1-061120	2017061-10	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
SB-1-061120	2017061-10	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
SB-1-061120	2017061-10	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
SB-1-061120	2017061-10	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
SB-1-061120	2017061-10	Ethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
SB-1-061120	2017061-10	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
SB-1-061120	2017061-10	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L

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SB-1-061120	2017061-10	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
SB-1-061120	2017061-10	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
SB-1-061120	2017061-10	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
SB-1-061120	2017061-10	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
SB-1-061120	2017061-10	Methyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
SB-1-061120	2017061-10	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
SB-1-061120	2017061-10	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
SB-1-061120	2017061-10	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
SB-1-061120	2017061-10	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
SB-1-061120	2017061-10	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
SB-1-061120	2017061-10	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
SB-1-061120	2017061-10	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
SB-1-061120	2017061-10	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
SB-1-061120	2017061-10	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
SB-1-061120	2017061-10	Chloroform	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
SB-1-061120	2017061-10	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
SB-1-061120	2017061-10	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
SB-1-061120	2017061-10	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
SB-1-061120	2017061-10	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
SB-1-061120	2017061-10	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L

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SB-1-061120	2017061-10	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
SB-1-061120	2017061-10	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
SB-1-061120	2017061-10	1,2-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
SB-1-061120	2017061-10	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
SB-1-061120	2017061-10	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
SB-1-061120	2017061-10	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
SB-1-061120	2017061-10	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
SB-1-061120	2017061-10	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
SB-1-061120	2017061-10	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
SB-1-061120	2017061-10	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
SB-1-061120	2017061-10	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
SB-1-061120	2017061-10	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
SB-1-061120	2017061-10	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
SB-1-061120	2017061-10	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
SB-1-061120	2017061-10	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
SB-1-061120	2017061-10	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
SB-1-061120	2017061-10	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
SB-1-061120	2017061-10	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.8	Y	y	v s				ug/L
SB-1-061120	2017061-10	Toluene-d8 (Surrogate)	6/12/2020	9.8	Y	y	v s				ug/L
SB-1-061120	2017061-10	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
SB-1-061120	2017061-10	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
SB-1-061120	2017061-10	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
SB-1-061120	2017061-10	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
SB-1-061120	2017061-10	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
SB-1-061120	2017061-10	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L

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SB-1-061120	2017061-10	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
SB-1-061120	2017061-10	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
SB-1-061120	2017061-10	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
SB-1-061120	2017061-10	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
SB-1-061120	2017061-10	Tetrachloroethene	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
SB-1-061120	2017061-10	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
SB-1-061120	2017061-10	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
SB-1-061120	2017061-10	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
SB-1-061120	2017061-10	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
SB-1-061120	2017061-10	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
SB-1-061120	2017061-10	Trichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
SB-1-061120	2017061-10	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
SB-1-061120	2017061-10	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
SB-1-061120	2017061-10	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
SB-1-061120	2017061-10	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
SB-1-061120	2017061-10	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
SB-1-061120	2017061-10	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
SB-1-061120	2017061-10	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
SB-1-061120	2017061-10	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
SB-1-061120	2017061-10	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
SB-1-061120	2017061-10	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
SB-1-061120	2017061-10	Benzene	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
SB-1-061120	2017061-10	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
SB-1-061120	2017061-10	1,2,3-Trichloropropane	6/12/2020	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
TB-3-061120	2017061-01	Chloromethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-3-061120	2017061-01	Vinyl chloride	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-3-061120	2017061-01	1,2,3-Trichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-3-061120	2017061-01	Ethyl methacrylate	6/12/2020	4	Y	n	u		4.0	1.3	ug/L
TB-3-061120	2017061-01	Diethyl ether	6/12/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
TB-3-061120	2017061-01	trans-1,4-Dichloro-2-butene	6/12/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
TB-3-061120	2017061-01	Carbon disulfide	6/12/2020	1	Y	n	u		1.0	0.48	ug/L
TB-3-061120	2017061-01	t-Butyl alcohol	6/12/2020	10	Y	n	u		10	9.4	ug/L
TB-3-061120	2017061-01	t-Amyl Methyl ether	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-3-061120	2017061-01	Chloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-3-061120	2017061-01	Hexachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-3-061120	2017061-01	Bromobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-3-061120	2017061-01	2-Hexanone	6/12/2020	10	Y	n	u		10	5.0	ug/L
TB-3-061120	2017061-01	1,3,5-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-3-061120	2017061-01	1,2,4-Trimethylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-3-061120	2017061-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-3-061120	2017061-01	1,2,3-Trichloropropane	6/12/2020	1	Y	n	u		1.0	0.78	ug/L
TB-3-061120	2017061-01	Trichlorofluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-3-061120	2017061-01	Trichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-3-061120	2017061-01	1,1,2-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-3-061120	2017061-01	1,1,1-Trichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-3-061120	2017061-01	1,2,4-Trichlorobenzene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
TB-3-061120	2017061-01	Acrylonitrile	6/12/2020	5	Y	n	u		5.0	1.5	ug/L
TB-3-061120	2017061-01	o-Xylene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-3-061120	2017061-01	Benzene	6/12/2020	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-3-061120	2017061-01	2-Nitropropane	6/12/2020	0	Y	y	v				ug/L
TB-3-061120	2017061-01	Nitrobenzene	6/12/2020	0	Y	y	v				ug/L
TB-3-061120	2017061-01	Methyl acrylate	6/12/2020	0	Y	y	v				ug/L
TB-3-061120	2017061-01	1,1-Dichloropropanone	6/12/2020	0	Y	y	v				ug/L
TB-3-061120	2017061-01	1-Chlorobutane	6/12/2020	0	Y	y	v				ug/L
TB-3-061120	2017061-01	Chloroacetonitrile	6/12/2020	0	Y	y	v				ug/L
TB-3-061120	2017061-01	4-Bromofluorobenzene (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
TB-3-061120	2017061-01	Ethyl t-butyl ether	6/12/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-3-061120	2017061-01	1,2-Dichloroethane-d4 (Surrogate)	6/12/2020	9.2	Y	y	v s				ug/L
TB-3-061120	2017061-01	Acetone	6/12/2020	10	Y	n	u		10	6.6	ug/L
TB-3-061120	2017061-01	p- & m-Xylenes	6/12/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-3-061120	2017061-01	Tetrahydrofuran	6/12/2020	20	Y	n	u		20	5.2	ug/L
TB-3-061120	2017061-01	Propionitrile	6/12/2020	20	Y	n	u		20	6.2	ug/L
TB-3-061120	2017061-01	Pentachloroethane	6/12/2020	2	Y	n	u		2.0	0.63	ug/L
TB-3-061120	2017061-01	Methyl methacrylate	6/12/2020	5	Y	n	u		5.0	1.2	ug/L
TB-3-061120	2017061-01	Methyl isobutyl ketone	6/12/2020	10	Y	n	u		10	2.4	ug/L
TB-3-061120	2017061-01	Methyl iodide	6/12/2020	2	Y	n	u		2.0	1.1	ug/L
TB-3-061120	2017061-01	Methyl ethyl ketone	6/12/2020	10	Y	n	u		10	3.3	ug/L
TB-3-061120	2017061-01	Methacrylonitrile	6/12/2020	10	Y	n	u		10	2.3	ug/L
TB-3-061120	2017061-01	Toluene-d8 (Surrogate)	6/12/2020	10	Y	y	v s				ug/L
TB-3-061120	2017061-01	Toluene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-3-061120	2017061-01	Dichlorodifluoromethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-3-061120	2017061-01	1,4-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-3-061120	2017061-01	1,3-Dichlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-3-061120	2017061-01	1,2-Dichlorobenzene	6/12/2020	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-3-061120	2017061-01	Dibromomethane	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-3-061120	2017061-01	1,2-Dibromoethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-3-061120	2017061-01	1,2-Dibromo-3-chloropropane	6/12/2020	1	Y	n	u		1.0	0.89	ug/L
TB-3-061120	2017061-01	Dibromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-3-061120	2017061-01	1,1-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-3-061120	2017061-01	2-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-3-061120	2017061-01	Chloroform	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-3-061120	2017061-01	Chlorobenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-3-061120	2017061-01	Allyl chloride	6/12/2020	5	Y	n	u		5.0	0.47	ug/L
TB-3-061120	2017061-01	tert-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-3-061120	2017061-01	sec-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-3-061120	2017061-01	n-Butylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-3-061120	2017061-01	Bromomethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-3-061120	2017061-01	Bromoform	6/12/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-3-061120	2017061-01	Bromodichloromethane	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-3-061120	2017061-01	Bromochloromethane	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-3-061120	2017061-01	4-Chlorotoluene	6/12/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-3-061120	2017061-01	Naphthalene	6/12/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
TB-3-061120	2017061-01	Carbon tetrachloride	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-3-061120	2017061-01	1,2-Dichloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-3-061120	2017061-01	1,1,2,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-3-061120	2017061-01	1,1,1,2-Tetrachloroethane	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-3-061120	2017061-01	n-Propylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-3-061120	2017061-01	Tetrachloroethene	6/12/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-3-061120	2017061-01	Methyl t-butyl ether	6/12/2020	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
TB-3-061120	2017061-01	Methylene chloride	6/12/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-3-061120	2017061-01	p-Isopropyltoluene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-3-061120	2017061-01	Isopropylbenzene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-3-061120	2017061-01	1,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-3-061120	2017061-01	1,1-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-3-061120	2017061-01	Styrene	6/12/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-3-061120	2017061-01	Hexachlorobutadiene	6/12/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-3-061120	2017061-01	trans-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-3-061120	2017061-01	cis-1,2-Dichloroethene	6/12/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-3-061120	2017061-01	1,3-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-3-061120	2017061-01	2,2-Dichloropropane	6/12/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-3-061120	2017061-01	1,1-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-3-061120	2017061-01	cis-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-3-061120	2017061-01	trans-1,3-Dichloropropene	6/12/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-3-061120	2017061-01	Ethylbenzene	6/12/2020	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-19-2	2017061-04	Dieldrin	6/17/2020	3	Y	n	u		3.0	0.39	ug/L
MW-19-2	2017061-04	1,3-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	1,4-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.27	ug/L
MW-19-2	2017061-04	bis(2-Chloroisopropyl)ether	6/17/2020	2	Y	n	u	UJ	2.0	0.20	ug/L
MW-19-2	2017061-04	1,2-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Diethyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Dimethyl phthalate	6/17/2020	2	Y	n	u		2.0	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-19-2	2017061-04	Di-n-butyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	2,6-Dinitrotoluene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Di-n-octyl phthalate	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-19-2	2017061-04	Dibenzofuran	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	2,4-Dinitrotoluene	6/17/2020	2	Y	n	u		2.0	0.40	ug/L
MW-19-2	2017061-04	Dibenzo[a,h]anthracene	6/17/2020	3	Y	n	u		3.0	0.34	ug/L
MW-19-2	2017061-04	4,4'-DDT	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-19-2	2017061-04	4,4'-DDE	6/17/2020	3	Y	n	u		3.0	0.24	ug/L
MW-19-2	2017061-04	4,4'-DDD	6/17/2020	2	Y	n	u		2.0	0.26	ug/L
MW-19-2	2017061-04	Chrysene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	4-Chlorophenyl phenyl ether	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	2-Chloronaphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	4-Chloroaniline	6/17/2020	2	Y	n	u		2.0	1.1	ug/L
MW-19-2	2017061-04	4-Bromophenyl phenyl ether	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	2-Naphthylamine	6/17/2020	20	Y	n	u	UJ	20	1.3	ug/L
MW-19-2	2017061-04	Resorcinol	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	1,2-Diphenylhydrazine	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	bis(2-Ethylhexyl)phthalate	6/17/2020	4	Y	n	u		4.0	0.20	ug/L
MW-19-2	2017061-04	Captafol	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	2-Fluorophenol (Surrogate)	6/17/2020	25	Y	y	v s				ug/L
MW-19-2	2017061-04	Phenol-d5 (Surrogate)	6/17/2020	16	Y	y	v s				ug/L
MW-19-2	2017061-04	Nitrobenzene-d5 (Surrogate)	6/17/2020	35	Y	y	v s				ug/L
MW-19-2	2017061-04	2-Fluorobiphenyl (Surrogate)	6/17/2020	30	Y	y	v s				ug/L
MW-19-2	2017061-04	2,4,6-Tribromophenol (Surrogate)	6/17/2020	37	Y	y	v s				ug/L
MW-19-2	2017061-04	p-Terphenyl-d14 (Surrogate)	6/17/2020	12	Y	y	v s				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-19-2	2017061-04	1-Acetyl-2-thiourea	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	2-Aminoanthraquinone	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	3-Amino-9-ethylcarbazole	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Anilazine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	o-Anisidine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Azinphos methyl	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Barban	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Demeton-O	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	5-Chloro-2-methylaniline	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Pentachlorobenzene	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-19-2	2017061-04	Crotoxyphos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	p-Cresidine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Coumaphos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	4-Chloro-1,3-phenylenediamine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	p-Benzoquinone	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	3-(Chloromethyl) pyridine hydrochloride	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Bromoxynil	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Chlorfenvinphos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Carbophenothion	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Carbofuran	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Carbaryl	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Captan	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	o,o,o-Triethylphosphorothioate	6/17/2020	10	Y	n	u		10	0.44	ug/L
MW-19-2	2017061-04	4-Chloro-1,2-phenylenediamine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	PCB-1242	6/17/2020	50	Y	n	u	UJ	50	25	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-19-2	2017061-04	Tris(hydroxymethyl)nitromethane	6/17/2020	50	Y	n	u		50	5.0	ug/L
MW-19-2	2017061-04	Piperonyl sulfoxide	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	PCB-1254	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	Endosulfan I	6/17/2020	10	Y	n	u	UJ	10	0.31	ug/L
MW-19-2	2017061-04	PCB-1260	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	PCB-1262	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	PCB-1268	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	Total PCB's (Summation)	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	2-Picoline	6/17/2020	10	Y	n	u		10	1.2	ug/L
MW-19-2	2017061-04	Phorate	6/17/2020	10	Y	n	u		10	0.35	ug/L
MW-19-2	2017061-04	1,4-Phenylenediamine	6/17/2020	20	Y	n	u		20	1.1	ug/L
MW-19-2	2017061-04	Phenacetin	6/17/2020	10	Y	n	u		10	0.75	ug/L
MW-19-2	2017061-04	Pentachloronitrobenzene	6/17/2020	10	Y	n	u		10	0.42	ug/L
MW-19-2	2017061-04	Pentachloroethane	6/17/2020	20	Y	n	u		20	0.31	ug/L
MW-19-2	2017061-04	PCB-1232	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	Sulfotep	6/17/2020	10	Y	n	u		10	0.23	ug/L
MW-19-2	2017061-04	Demeton-S	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Toxaphene	6/17/2020	100	Y	n	u		100	50	ug/L
MW-19-2	2017061-04	2-Toluidine	6/17/2020	10	Y	n	u		10	0.41	ug/L
MW-19-2	2017061-04	Thionazin	6/17/2020	10	Y	n	u		10	0.38	ug/L
MW-19-2	2017061-04	2,3,4,6-Tetrachlorophenol	6/17/2020	10	Y	n	u		10	0.73	ug/L
MW-19-2	2017061-04	PCB-1016	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	1,2,4,5-Tetrachlorobenzene	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-19-2	2017061-04	1,3,5-Trinitrobenzene	6/17/2020	10	Y	n	u		10	1.4	ug/L
MW-19-2	2017061-04	Safrole	6/17/2020	10	Y	n	u		10	0.40	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-19-2	2017061-04	Pyridine	6/17/2020	10	Y	n	u		10	1.6	ug/L
MW-19-2	2017061-04	Prowl	6/17/2020	10	Y	n	u		10	0.83	ug/L
MW-19-2	2017061-04	Propyleneglycol monomethyl ether acetate	6/17/2020	10	Y	n	u		10	3.7	ug/L
MW-19-2	2017061-04	Pronamide	6/17/2020	10	Y	n	u		10	0.22	ug/L
MW-19-2	2017061-04	Prometryn	6/17/2020	10	Y	n	u		10	1.7	ug/L
MW-19-2	2017061-04	2,3,4,5-Tetrachlorophenol	6/17/2020	10	Y	n	u		10	5.0	ug/L
MW-19-2	2017061-04	Phthalic anhydride	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Mexacarbate	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Mirex	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Monocrotophos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Naled	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Nicotine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	5-Nitroacenaphthene	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	5-Nitro-o-anisidine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	4-Nitrobiphenyl	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Nitrophen	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Octamethylpyrophosphoramide	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	4,4'-Oxydianiline	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Phenobarbital	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Phosalone	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	2-Cyclohexyl-4,6-dinitrophenol	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	TEPP	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Tri-p-tolyl phosphate	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Tris(2,3-dibromopropyl) phosphate	6/17/2020	0	Y	y	v				ug/L

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MW-19-2	2017061-04	Trimethyl phosphate	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	2,4,5-Trimethylaniline	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Trifluralin	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Phosmet	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Thiophenol (Benzenethiol)	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Phosphamidon	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Tetrachlorvinphos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Terbufos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Sulfallate	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Strychnine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Propylthiouracil	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	4,4'-Methylenebis(2-chloroaniline)	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Toluene 2,4-diisocyanate	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Dicrotophos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Mevinphos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	1,4-Dinitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	1,2-Dinitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	3,3'-Dimethoxybenzidine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Dihydrosafrole	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Dioxathion	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Diethylstilbestrol	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	5,5-Diphenylhydantoin	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Dichlorvos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Dichlone	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	1,2-Dibromo-3-chloropropane	6/17/2020	0	Y	y	v				ug/L

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MW-19-2	2017061-04	Dibenzo[a,e]pyrene	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Dibenz[a,j]acridine	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	2,4-Diaminotoluene	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Diethyl sulfate	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Fluchloralin	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	PCB-1248	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	Mestranol	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Maleic Anhydride	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Malathion	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Leptophos	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Dinocap	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Hexamethylphosphoramide	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	4,4'-Methylenebis[N,N-dimethylaniline]	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Fenthion	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Fensulfothion	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Ethyl carbamate	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Ethion	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	EPN	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Endrin ketone	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	Hydroquinone	6/17/2020	0	Y	y	v				ug/L
MW-19-2	2017061-04	PCB-1221	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-19-2	2017061-04	Naphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	1,2,4-Trichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Acenaphthene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Acenaphthylene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L

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MW-19-2	2017061-04	Aldrin	6/17/2020	2	Y	n	u		2.0	0.23	ug/L
MW-19-2	2017061-04	Aniline	6/17/2020	5	Y	n	u		5.0	0.28	ug/L
MW-19-2	2017061-04	Anthracene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Benzidine	6/17/2020	20	Y	n	u	UJ	20	1.6	ug/L
MW-19-2	2017061-04	Benzo[a]anthracene	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-19-2	2017061-04	Benzo[b]fluoranthene	6/17/2020	2	Y	n	u		2.0	0.24	ug/L
MW-19-2	2017061-04	Benzo[k]fluoranthene	6/17/2020	2	Y	n	u		2.0	0.30	ug/L
MW-19-2	2017061-04	Benzo[a]pyrene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Phenol	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-19-2	2017061-04	Benzoic acid	6/17/2020	10	Y	n	u		10	0.52	ug/L
MW-19-2	2017061-04	2,4-Dimethylphenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Benzyl butyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	N-Nitrosopyrrolidine	6/17/2020	10	Y	n	u		10	0.39	ug/L
MW-19-2	2017061-04	beta-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	delta-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	gamma-BHC (Lindane)	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	bis(2-Chloroethoxy)methane	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	bis(2-Chloroethyl) ether	6/17/2020	2	Y	n	u		2.0	0.31	ug/L
MW-19-2	2017061-04	2-Methylphenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	3- & 4-Methylphenol	6/17/2020	2	Y	n	u		2.0	0.40	ug/L
MW-19-2	2017061-04	Total Methylphenol	6/17/2020	4	Y	n	u		4.0	0.60	ug/L
MW-19-2	2017061-04	2-Nitrophenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	4-Nitrophenol	6/17/2020	2	Y	n	u		2.0	0.30	ug/L
MW-19-2	2017061-04	Pentachlorophenol	6/17/2020	10	Y	n	u		10	0.40	ug/L
MW-19-2	2017061-04	Benzo[g,h,i]perylene	6/17/2020	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-19-2	2017061-04	Heptachlor	6/17/2020	2	Y	n	u	UJ	2.0	0.20	ug/L
MW-19-2	2017061-04	Endosulfan II	6/17/2020	10	Y	n	u		10	0.30	ug/L
MW-19-2	2017061-04	Endosulfan sulfate	6/17/2020	3	Y	n	u		3.0	0.23	ug/L
MW-19-2	2017061-04	Endrin	6/17/2020	2	Y	n	u		2.0	0.38	ug/L
MW-19-2	2017061-04	Endrin aldehyde	6/17/2020	10	Y	n	u		10	0.44	ug/L
MW-19-2	2017061-04	Fluoranthene	6/17/2020	2	Y	n	u		2.0	0.28	ug/L
MW-19-2	2017061-04	Fluorene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	3,3-Dichlorobenzidine	6/17/2020	10	Y	n	u	UJ	10	0.53	ug/L
MW-19-2	2017061-04	Heptachlor epoxide	6/17/2020	2	Y	n	u		2.0	0.26	ug/L
MW-19-2	2017061-04	Hexachlorobenzene	6/17/2020	2	Y	n	u		2.0	0.25	ug/L
MW-19-2	2017061-04	Hexachlorobutadiene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Hexachlorocyclopentadiene	6/17/2020	2	Y	n	u		2.0	0.31	ug/L
MW-19-2	2017061-04	Hexachloroethane	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Indeno[1,2,3-cd]pyrene	6/17/2020	2	Y	n	u		2.0	0.29	ug/L
MW-19-2	2017061-04	2,4-Dinitrophenol	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-19-2	2017061-04	N-Nitrosodi-N-propylamine	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-19-2	2017061-04	alpha-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	2,4-Dichlorophenol	6/17/2020	2	Y	n	u		2.0	0.23	ug/L
MW-19-2	2017061-04	2-Chlorophenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	4-Chloro-3-methylphenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-19-2	2017061-04	Pyrene	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-19-2	2017061-04	Isophorone	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	N-Nitrosodiphenylamine	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	2-Methylnaphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	N-Nitrosodimethylamine	6/17/2020	2	Y	n	u		2.0	1.2	ug/L

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MW-19-2	2017061-04	Nitrobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	4-Nitroaniline	6/17/2020	5	Y	n	u		5.0	0.38	ug/L
MW-19-2	2017061-04	3-Nitroaniline	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-19-2	2017061-04	2-Nitroaniline	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	4,6-Dinitro-2-methylphenol	6/17/2020	10	Y	n	u		10	0.24	ug/L
MW-19-2	2017061-04	Phenanthrene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Methyl methanesulfonate	6/17/2020	10	Y	n	u		10	0.40	ug/L
MW-19-2	2017061-04	Ethyl methanesulfonate	6/17/2020	10	Y	n	u		10	0.61	ug/L
MW-19-2	2017061-04	Ethyl Parathion	6/17/2020	10	Y	n	u	UJ	10	0.53	ug/L
MW-19-2	2017061-04	Famphur	6/17/2020	20	Y	n	u	UJ	20	4.1	ug/L
MW-19-2	2017061-04	Hexachlorophene	6/17/2020	200	Y	n	u	UJ	200	20	ug/L
MW-19-2	2017061-04	Hexachloropropene	6/17/2020	20	Y	n	u		20	0.23	ug/L
MW-19-2	2017061-04	Isodrin	6/17/2020	10	Y	n	u		10	0.43	ug/L
MW-19-2	2017061-04	2,4,5-Trichlorophenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-19-2	2017061-04	trans-Isosafrole	6/17/2020	5	Y	n	u		5.0	0.29	ug/L
MW-19-2	2017061-04	Benzyl alcohol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	Kepone	6/17/2020	20	Y	n	u		20	2.2	ug/L
MW-19-2	2017061-04	Methapyrilene	6/17/2020	10	Y	n	u		10	2.9	ug/L
MW-19-2	2017061-04	Methoxychlor	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-19-2	2017061-04	Ethyl methacrylate	6/17/2020	10	Y	n	u	UJ	10	1.2	ug/L
MW-19-2	2017061-04	Methyl methacrylate	6/17/2020	40	Y	n	u		40	3.8	ug/L
MW-19-2	2017061-04	cis-Isosafrole	6/17/2020	5	Y	n	u		5.0	0.44	ug/L
MW-19-2	2017061-04	1-Methylnaphthalene	6/17/2020	10	Y	n	u		10	0.26	ug/L
MW-19-2	2017061-04	Methyl parathion	6/17/2020	10	Y	n	u	UJ	10	0.71	ug/L
MW-19-2	2017061-04	N-Methyl-2-pyrrolidinone	6/17/2020	10	Y	n	u		10	2.5	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-19-2	2017061-04	1,4-Naphthoquinone	6/17/2020	20	Y	n	u	UJ	20	0.87	ug/L
MW-19-2	2017061-04	1-Naphthylamine	6/17/2020	20	Y	n	u	UJ	20	0.30	ug/L
MW-19-2	2017061-04	5-Nitro-o-toluidine	6/17/2020	10	Y	n	u		10	0.85	ug/L
MW-19-2	2017061-04	4-Nitroquinoline 1-oxide	6/17/2020	20	Y	n	u		20	0.95	ug/L
MW-19-2	2017061-04	N-Nitrosodibutylamine	6/17/2020	10	Y	n	u		10	0.26	ug/L
MW-19-2	2017061-04	N-Nitrosodiethylamine	6/17/2020	10	Y	n	u		10	0.55	ug/L
MW-19-2	2017061-04	N-Nitrosomethylethylamine	6/17/2020	10	Y	n	u		10	0.61	ug/L
MW-19-2	2017061-04	N-Nitrosomorpholine	6/17/2020	10	Y	n	u		10	0.63	ug/L
MW-19-2	2017061-04	N-Nitrosopiperidine	6/17/2020	10	Y	n	u		10	0.47	ug/L
MW-19-2	2017061-04	3-Methylcholanthrene	6/17/2020	10	Y	n	u		10	0.31	ug/L
MW-19-2	2017061-04	Benefin	6/17/2020	10	Y	n	u		10	0.88	ug/L
MW-19-2	2017061-04	cis-Diallate	6/17/2020	5	Y	n	u		5.0	2.4	ug/L
MW-19-2	2017061-04	1-Chloronaphthalene	6/17/2020	10	Y	n	u		10	0.37	ug/L
MW-19-2	2017061-04	Chlorobenzilate	6/17/2020	10	Y	n	u		10	0.27	ug/L
MW-19-2	2017061-04	trans-Chlordane	6/17/2020	5	Y	n	u		5.0	0.55	ug/L
MW-19-2	2017061-04	cis-Chlordane	6/17/2020	5	Y	n	u	UJ	5.0	0.59	ug/L
MW-19-2	2017061-04	Carbazole	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-19-2	2017061-04	trans-Diallate	6/17/2020	5	Y	n	u		5.0	0.56	ug/L
MW-19-2	2017061-04	Disulfoton	6/17/2020	10	Y	n	u	UJ	10	0.33	ug/L
MW-19-2	2017061-04	1,1-Biphenyl	6/17/2020	10	Y	n	u		10	3.6	ug/L
MW-19-2	2017061-04	Isosafrole	6/17/2020	10	Y	n	u		10	0.73	ug/L
MW-19-2	2017061-04	Aramite	6/17/2020	10	Y	n	u	UJ	10	0.35	ug/L
MW-19-2	2017061-04	4-Aminobiphenyl	6/17/2020	20	Y	n	u		20	0.35	ug/L
MW-19-2	2017061-04	Acrolein, dimethyl acetal	6/17/2020	40	Y	n	u		40	6.1	ug/L
MW-19-2	2017061-04	2-Acetylaminofluorene	6/17/2020	10	Y	n	u		10	0.78	ug/L

SDG: 2017061

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-19-2	2017061-04	Acetophenone	6/17/2020	10	Y	n	u		10	0.33	ug/L
MW-19-2	2017061-04	2,4,6-Trichlorophenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-19-2	2017061-04	Caprolactam	6/17/2020	10	Y	n	u		10	3.6	ug/L
MW-19-2	2017061-04	Dimethyl sulfoxide (DMSO)	6/17/2020	10	Y	n	u		10	9.5	ug/L
MW-19-2	2017061-04	Benzaldehyde	6/17/2020	10	Y	n	u		10	2.9	ug/L
MW-19-2	2017061-04	Diallate	6/17/2020	10	Y	n	u		10	3.0	ug/L
MW-19-2	2017061-04	Diphenylamine	6/17/2020	10	Y	n	u		10	0.61	ug/L
MW-19-2	2017061-04	1,3-Dinitrobenzene	6/17/2020	10	Y	n	u		10	0.93	ug/L
MW-19-2	2017061-04	a,a-Dimethylphenethylamine	6/17/2020	20	Y	n	u		20	4.9	ug/L
MW-19-2	2017061-04	3,3'-Dimethylbenzidine	6/17/2020	20	Y	n	u		20	0.42	ug/L
MW-19-2	2017061-04	p-(Dimethylamino)azobenzene	6/17/2020	10	Y	n	u	UJ	10	0.27	ug/L
MW-19-2	2017061-04	2,6-Dichlorophenol	6/17/2020	10	Y	n	u		10	0.28	ug/L
MW-19-2	2017061-04	Dimethoate	6/17/2020	20	Y	n	u		20	0.99	ug/L
MW-19-2	2017061-04	7,12-Dimethylbenz[a]anthracene	6/17/2020	10	Y	n	u		10	0.37	ug/L
MW-19-2	2017061-04	Dinoseb	6/17/2020	10	Y	n	u		10	0.91	ug/L

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-1-2Q2020	2017061-06	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
DUP-1-2Q2020	2017061-06	Total Alkalinity as CaCO3	6/16/2020	180	Y	y	v		4.1	4.1	mg/L
DUP-1-2Q2020	2017061-06	Bicarbonate	6/16/2020	220	Y	y	v		5.0	5.0	mg/L
EB-3-061120	2017061-09	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
EB-3-061120	2017061-09	Total Alkalinity as CaCO3	6/16/2020	4.1	Y	n	u		4.1	4.1	mg/L
EB-3-061120	2017061-09	Bicarbonate	6/16/2020	5	Y	n	u		5.0	5.0	mg/L
MW-18-1	2017061-03	Total Alkalinity as CaCO3	6/16/2020	150	Y	y	v		4.1	4.1	mg/L

SDG: 2017061

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-18-1	2017061-03	Bicarbonate	6/16/2020	180	Y	y	v		5.0	5.0	mg/L
MW-18-1	2017061-03	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-18-2	2017061-02	Bicarbonate	6/16/2020	200	Y	y	v		5.0	5.0	mg/L
MW-18-2	2017061-02	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-18-2	2017061-02	Total Alkalinity as CaCO3	6/16/2020	160	Y	y	v		4.1	4.1	mg/L
MW-19-1	2017061-11	Total Alkalinity as CaCO3	6/16/2020	130	Y	y	v		4.1	4.1	mg/L
MW-19-1	2017061-11	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-19-1	2017061-11	Bicarbonate	6/16/2020	160	Y	y	v		5.0	5.0	mg/L
MW-19-2	2017061-04	Bicarbonate	6/16/2020	300	Y	y	v		10	10	mg/L
MW-19-2	2017061-04	Carbonate	6/16/2020	5	Y	n	u		5.0	5.0	mg/L
MW-19-2	2017061-04	Total Alkalinity as CaCO3	6/16/2020	240	Y	y	v		8.2	8.2	mg/L
MW-19-3	2017061-05	Total Alkalinity as CaCO3	6/16/2020	180	Y	y	v		4.1	4.1	mg/L
MW-19-3	2017061-05	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-19-3	2017061-05	Bicarbonate	6/16/2020	220	Y	y	v		5.0	5.0	mg/L
MW-19-4	2017061-08	Bicarbonate	6/16/2020	210	Y	y	v		5.0	5.0	mg/L
MW-19-4	2017061-08	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-19-4	2017061-08	Total Alkalinity as CaCO3	6/16/2020	170	Y	y	v		4.1	4.1	mg/L
MW-19-5	2017061-07	Total Alkalinity as CaCO3	6/16/2020	170	Y	y	v		4.1	4.1	mg/L
MW-19-5	2017061-07	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-19-5	2017061-07	Bicarbonate	6/16/2020	210	Y	y	v		5.0	5.0	mg/L
SB-1-061120	2017061-10	Bicarbonate	6/16/2020	5	Y	n	u		5.0	5.0	mg/L
SB-1-061120	2017061-10	Carbonate	6/16/2020	2.5	Y	n	u		2.5	2.5	mg/L
SB-1-061120	2017061-10	Total Alkalinity as CaCO3	6/16/2020	4.1	Y	n	u		4.1	4.1	mg/L

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017168

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-4-061220	2017168-01	Water	06/12/20
MW-3-2	2017168-02	Water	06/12/20
MW-3-5	2017168-03	Water	06/12/20
MW-3-4	2017168-04	Water	06/12/20
MW-3-3	2017168-05	Water	06/12/20
MW-3-1	2017168-06	Water	06/12/20
EB-4-061220	2017168-07	Water	06/12/20
MW-3-2MS	2017168-02MS	Water	06/12/20
MW-3-2MSD	2017168-02MSD	Water	06/12/20

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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/02/20	Diethyl ether	74.0	All samples in SDG 2017168	UJ (all non-detects)	P

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
06/17/20 (17JUN03)	Bromoform Naphthalene 1,2,4-Trichlorobenzene	38.0 41.2 31.4	All samples in SDG 2017168	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
06/17/20 (17JUN04)	trans-1,4-Dichloro-2-butene Methyl iodide	10.6 60.0	All samples in SDG 2017168	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-4-061220 was identified as a trip blank. No contaminants were found.

Sample EB-4-061220 was identified as an equipment 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

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 ICV %D and continuing calibration %D, data were qualified as estimated in seven samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2017168

Sample	Compound	Flag	A or P	Reason
TB-4-061220 MW-3-2 MW-3-5 MW-3-4 MW-3-3 MW-3-1 EB-4-061220	Diethyl ether	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-4-061220 MW-3-2 MW-3-5 MW-3-4 MW-3-3 MW-3-1 EB-4-061220	Bromoform Naphthalene 1,2,4-Trichlorobenzene trans-1,4-Dichloro-2-butene Methyl iodide	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2017168

No Sample Data Qualified in this SDG

LDC #: 48646D1a

SDG #: 2017168

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/1/20

Page: 1 of 1

Reviewer: 1

2nd Reviewer:

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 M	RSD=20% ·r² ICV≤30%
IV.	Continuing calibration	M	CCV≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=7
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	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-4-061220	2017168-01	Water	06/12/20
2	MW-3-2	2017168-02	Water	06/12/20
3	MW-3-5	2017168-03	Water	06/12/20
4	MW-3-4	2017168-04	Water	06/12/20
5	MW-3-3	2017168-05	Water	06/12/20
6	MW-3-1	2017168-06	Water	06/12/20
7	EB-4-061220	2017168-07	Water	06/12/20
8	MW-3-2MS	2017168-02MS	Water	06/12/20
9	MW-3-2MSD	2017168-02MSD	Water	06/12/20
10				

Notes:

LDC #: 48646D19

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: 9
2nd Reviewer:

METHOD: GC/MS VOA (EPA ~~SW 846~~ Method ~~8260B~~) ~~5.2~~ 2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

(Y) N N/A Were all %D within the validation criteria of ≤20 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: <20.0%)	Associated Samples	Qualifications
	6/2/20	02JUN14	Diethyl ether	24.0	All (ND)	J/UN/A

ICV wpd

LDC #: ~~18646D19~~

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer:

METHOD: GC/MS VOA (EPA ~~SW 846~~ Method ~~8260B~~) 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y (N) N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y (N) N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/17/20	IRJUN03	X	38.0			
			MMM	41.2			
			kkk	31.4			
	6/17/20	IRJUN04	YYYY	106			
			Methyl iodide	60.0			

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Semivolatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017168

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-3-2	2017168-02	Water	06/12/20

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:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270C

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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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, percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs) with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
06/15/20	Benzidine	56.06873	All samples in SDG 2017168	UJ (all non-detects)	A
	Endosulfan I	18.33888		UJ (all non-detects)	
	2-Naphthylamine	49.74228		UJ (all non-detects)	
	cis-Chlordane	32.46043		UJ (all non-detects)	
	Famphur	40.31817		UJ (all non-detects)	
	1-Naphthylamine	37.88838		UJ (all non-detects)	

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 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
06/16/20 (16JUN003)	Benzidine	25.2	All samples in SDG 2017168	Benzidine	UJ (all non-detects)	A
	2,2'-Oxybis(1-chloropropane)	27.2		2,2'-Oxybis(1-chloropropane)	UJ (all non-detects)	
	3,3'-Dichlorobenzidine	25.9		3,3'-Dichlorobenzidine	UJ (all non-detects)	
	Heptachlor	20.8		Heptachlor	UJ (all non-detects)	
	2-Naphthylamine	33.4		2-Naphthylamine	UJ (all non-detects)	

Date	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
06/16/20 (16JUN004)	Aramite	20.9	All samples in SDG 2017168	Aramite	UJ (all non-detects)	A
	p-(Dimethylamino)azobenzene	23.9		p-(Dimethylamino)azobenzene	UJ (all non-detects)	
	Disulfoton	22.6		Disulfoton	UJ (all non-detects)	
	Ethyl methacrylate	31.2		Ethyl methacrylate	UJ (all non-detects)	
	Ethyl Parathion	23.9		Ethyl Parathion	UJ (all non-detects)	
	Methyl parathion	26.3		Methyl parathion	UJ (all non-detects)	
	1,4-Naphthoquinone	33.7		1,4-Naphthoquinone	UJ (all non-detects)	
	Hexachlorophene	36.1		Hexachlorophene	UJ (all non-detects)	
	PCB-1260	22.7		PCB-1260	UJ (all non-detects)	
				PCB-1016	UJ (all non-detects)	
				PCB-1221	UJ (all non-detects)	
				PCB-1232	UJ (all non-detects)	
				PCB-1242	UJ (all non-detects)	
				PCB-1248	UJ (all non-detects)	
				PCB-1254	UJ (all non-detects)	
				PCB-1262	UJ (all non-detects)	
				PCB-1268	UJ (all non-detects)	
				Total PCBs	UJ (all non-detects)	

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Affected Compound	Flag	A or P
MW-3-2	Perylene-d12	321798 (73853-295412)	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene 3-Methylcholanthrene	NA	-

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 initial calibration %RSD and ICV %D, data were qualified as estimated in one sample.

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

NASA JPL, 2Q2020
Semivolatiles - Data Qualification Summary - SDG 2017168

Sample	Compound	Flag	A or P	Reason
MW-3-2	Benzidine Endosulfan I 2-Naphthylamine cis-Chlordane Famphur 1-Naphthylamine	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	A	Initial calibration (%RSD)
MW-3-2	Benzidine 2,2'-Oxybis(1-chloropropane) 3,3'-Dichlorobenzidine Heptachlor 2-Naphthylamine Aramite p-(Dimethylamino)azobenzene Disulfoton Ethyl methacrylate Ethyl Parathion Methyl parathion 1,4-Naphthoquinone Hexachlorophene PCB-1260 PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1262 PCB-1268 Total PCBs	UJ (all non-detects) UJ (all non-detects)		Initial calibration verification (%D)

NASA JPL, 2Q2020
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 2017168

No Sample Data Qualified in this SDG

LDC #: 48646D2a

VALIDATION COMPLETENESS WORKSHEET

Level III

SDG #: 2017168

Laboratory: BC Laboratories, Inc.

Date: 8/1/20

Page: 1 of 1

Reviewer: V

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

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 ≤ 15%/≥0.99 r^2 ICV ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A/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	MW-3-2	2017168-02	Water	06/12/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

LDC #: 48646D2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: 9
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory conduct an acceptable 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0/15%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/15/20	ICAL	SSS	56.06873		All (ND)	J/UJ/A
			Endosulfan I	18.33888			
			R1	49.74228			
			cis-Chlordane	32.46043			
			U1	40.31817			
			A2	37.88838			

LDC #: 48646D2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: CO
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?
Y N N/A Were all %D within the validation criteria of ≤30 %D ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/16/20	16JUN003	SSS	25.2	All (ND)	J/UJ/A
			H	27.2		
			BBB	25.9		
			Heptachlor	20.8		
			R1	33.4		
	6/16/20	16JUN004	Aramite	20.9		
			p-(Dimethylamino)azobenzene	23.9		
			Disilfoton	22.6		
			Ethyl methacrylate	31.2		
			Ethyl Parathion	23.9		
			Methyl parathion	26.3		
			M1	33.7		
			Hexachlorophene	36.1		
			PCB-1260	27.7		
						(qual: PCB-1016, 1221,1232,1242,
						1248,1254,1260,1262,1268, and
						Total PCBS)

LDC #: 48646D9

VALIDATION FINDINGS WORKSHEET
Internal Standards

Reviewer: 9
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all internal standard area counts within -50 to +100 of the associated calibration standard?

Y (N) N/A Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

#	Date	Sample ID	Internal Standard	Area (Limits)	RT (Limits)	Qualifications
		1	DRY	324798 (73853 - 295412)		blots/P
		B080192-BK1	↓	349874		↓

(DCB) = 1,4-Dichlorobenzene-d4
(NPT) = Naphthalene-d8
(ANT) = Acenaphthene-d10
(PHN) = Phenanthrene-d10
(CRY) = Chrysene-d12
(PRY) = Perylene-d12

Semi-Volatile Internal Standards

1,4-Dichlorobenzene-d4 (DCB)	Naphthalene-d8 (NPT)	Acenaphthene-d10 (ANT)
Phenol	Nitrobenzene	2,4,6-Trichlorophenol
Bis(2-chloroethyl)ether	Isophorone	2,4,5-Trichlorophenol
2-Chlorophenol	2-Nitrophenol	2-Chloronaphthalene
1,3-Dichlorobenzene	2,4-Dimethylphenol	2-Nitroaniline
1,4-Dichlorobenzene	Bis(2-chloroethoxy)methane	Dimethylphthalate
1,2-Dichlorobenzene	2,4-Dichlorophenol	Acenaphthylene
2-Methylphenol	Naphthalene	2,6-Dinitrotoluene
Bis(2-chloroisopropyl)ether	4-Chloroaniline	3-Nitroaniline
3+4-Methylphenol	Hexachlorobutadiene	Acenaphthene
N-Nitroso-d-n-propylamine	4-Chloro-3-methylphenol	4-Nitrophenol
Hexachoroethane	2-Methynaphthalene	Dibenzofuran
N-Nitrosodimethylamine	1,2,4-Trichlorobenzene	2,4-Dinitrotoluene
	Benzoic acid	Diethyphthalate
		4-Chlorophenylphenyl ether
		Fluorene
		4-Nitroaniline
		Hexachlorocyclopentadiene
		2,4-Dinitrophenol

Phenanthrene-d10 (PHN)	Chrysene-d12 (CRY)	Perylene-d12 (PRY)
N-Nitrosodiphenylamine	Pyrene	Benzo(b)fluoranthene
4-Bromophenyl-phenyl ether	Butylbenzylphthalate	Benzo(k)fluoranthene
Hexachlorobenzene	3,3-Dichlorobenzidine	Benzo(a)pyrene
Pentachlorophenol	Benzo(a)anthracene	Indeno(1,2,3-cd)pyrene
Phenanthrene	Chrysene	Dibenzo(a,h)anthracene
Anthracene	Bis(2-ethylhexyl)phthalate	Benzo(g,h,i)perylene
Di-n-butylphthalate	Di-n-octylphthalate	3-Methylcholanthrene
Fluoranthene		
4,6-Dinitro-2-methylphenol		

V:\Pei\Worksheets\SVOC\IS_BC.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Metals

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017168

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-3-2	2017168-02	Water	06/12/20
MW-3-5	2017168-03	Water	06/12/20
MW-3-4	2017168-04	Water	06/12/20
MW-3-3	2017168-05	Water	06/12/20
MW-3-1	2017168-06	Water	06/12/20
EB-4-061220	2017168-07	Water	06/12/20

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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. 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	Potassium	0.10966 ug/L	All samples in SDG 2017168

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.

VI. Field Blanks

Sample EB-4-061220 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration
EB-4-061220	06/12/20	Calcium Sodium	0.054 mg/L 0.14 mg/L

VII. 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.

VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

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 methods. 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 methods. No results were rejected in this SDG.

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2017168

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2017168

No Sample Data Qualified in this SDG

LDC #: 48646D4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/4/20
SDG #: 2017168 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer: [illegible]

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	FB = 6
VII.	Matrix Spike/Matrix Spike Duplicates	N	
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	N	NOT REVIEWED
XIII.	Sample Result Verification	N	
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

	Client ID	Lab ID	Matrix	Date
1	MW-3-2	2017168-02	Water	06/12/20
2	MW-3-5	2017168-03	Water	06/12/20
3	MW-3-4	2017168-04	Water	06/12/20
4	MW-3-3	2017168-05	Water	06/12/20
5	MW-3-1	2017168-06	Water	06/12/20
6	EB-4-061220	2017168-07	Water	06/12/20
7				
8				
9				
10				
11				
12				
13				

Notes:

LDC #: 4864604a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
All	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, B, Cd, [✓ Ca], Cr, Co, Cu, [✓ Fe], Pb, Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
ICP-MS	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
GFAA		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Comments: Mercury by CVAA if performed

LDC #: 48646D4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: DTM
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010/6020/7000)
Soil preparation factor applied:____
Sample Concentration units, unless otherwise noted: mg/Kg
Associated Samples: ALL

					Sample Identification										
Analyte	Maximum PB[a] (mg/l)	Maximum PB[a] (ug/l)	Maximum ICB/CCB[a] (ug/l)	Action Level	NO QUAL										
K			0.10966	0.5483											

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 #: 48646D4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 6/12/2020
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: X Flag

Analyte	Blank ID	Blank ID	Sample Identification										
	6		Action Limit	NO QUAL									
Ca	0.054												
Na	0.14												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 6, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017168

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-3-2	2017168-02	Water	06/12/20
MW-3-5	2017168-03	Water	06/12/20
MW-3-4	2017168-04	Water	06/12/20
MW-3-3	2017168-05	Water	06/12/20
MW-3-1	2017168-06	Water	06/12/20
EB-4-061220	2017168-07	Water	06/12/20
MW-3-2MS	2017168-02MS	Water	06/12/20
MW-3-2MSD	2017168-02MSD	Water	06/12/20
MW-3-2DUP	2017168-02DUP	Water	06/12/20

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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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
All samples in SDG 2017168	pH	5 days	2 days	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.

V. Field Blanks

Sample EB-4-061220 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-4-061220	Total dissolved solids Hexavalent chromium Chloride Nitrate as N Sulfate pH	3.3 mg/L 0.000039 mg/L 0.14 mg/L 0.081 mg/L 0.24 mg/L 4.33 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 times, data were qualified as estimated in six samples.

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

NASA JPL, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2017168

Sample	Analyte	Flag	A or P	Reason
MW-3-2 MW-3-5 MW-3-4 MW-3-3 MW-3-1 EB-4-061220	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2017168

No Sample Data Qualified in this SDG

LDC #: 48646D6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/4/2020
SDG #: 2017168 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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	A	
V	Field blanks	SW	EB=6
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	A	
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-3-2	2017168-02	Water	06/12/20
2	MW-3-5	2017168-03	Water	06/12/20
3	MW-3-4	2017168-04	Water	06/12/20
4	MW-3-3	2017168-05	Water	06/12/20
5	MW-3-1	2017168-06	Water	06/12/20
6	EB-4-061220	2017168-07	Water	06/12/20
7	MW-3-2MS	2017168-02MS	Water	06/12/20
8	MW-3-2MSD	2017168-02MSD	Water	06/12/20
9	MW-3-2DUP	2017168-02DUP	Water	06/12/20
10				
11				
12				
13				
14				
15				

Notes:

LDC #: 48646D6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1-6	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO3-N] [✓ NO2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC7-8	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 9	[✓ pH] [✓ TDS] Cl F NO_3 NO_2 SO_4 O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] ~~NO3-N~~ DTM [✓ NO2-N]
	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
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 48646D6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: DTM
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	150.1	
Parameters:	pH	
Technical holding time:	48hrs	

Sample ID	Sampling date	Analysis date	Total Time	Qualifier	Analysis date	Total Time	Qualifier
ALL	6/12/2020	6/17/2020	5days	J/R/P (det)			

LDC #: 48646D6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:**
Sampling date: 6/12/2020 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: X flag

Analyte	Blank ID	Action Limit	Sample Identification							
	6		No Qualifiers							
TDS	3.3									
Cr6	0.000039									
Chloride	0.14									
NO3-N	0.081									
SO4	0.24									
pH	4.33									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

NASA JPL, 2Q2020 - LDC# 48646D

SDG: 2017168

Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4-061220	2017168-07	pH	6/17/2020	4.33	Y	y	v	J	0.05	0.05	pH Units
MW-3-1	2017168-06	pH	6/17/2020	7.91	Y	y	v	J	0.05	0.05	pH Units
MW-3-2	2017168-02	pH	6/17/2020	7.48	Y	y	v	J	0.05	0.05	pH Units
MW-3-3	2017168-05	pH	6/17/2020	7.55	Y	y	v	J	0.05	0.05	pH Units
MW-3-4	2017168-04	pH	6/17/2020	7.71	Y	y	v	J	0.05	0.05	pH Units
MW-3-5	2017168-03	pH	6/17/2020	7.6	Y	y	v	J	0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4-061220	2017168-07	Total Dissolved Solids @ 180 C	6/16/2020	3.3	Y	y	v j	J	6.7	3.3	mg/L
MW-3-1	2017168-06	Total Dissolved Solids @ 180 C	6/16/2020	300	Y	y	v	J	20	10	mg/L
MW-3-2	2017168-02	Total Dissolved Solids @ 180 C	6/16/2020	370	Y	y	v	J	20	10	mg/L
MW-3-3	2017168-05	Total Dissolved Solids @ 180 C	6/16/2020	370	Y	y	v	J	20	10	mg/L
MW-3-4	2017168-04	Total Dissolved Solids @ 180 C	6/16/2020	370	Y	y	v	J	20	10	mg/L
MW-3-5	2017168-03	Total Dissolved Solids @ 180 C	6/16/2020	370	Y	y	v	J	20	10	mg/L

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4-061220	2017168-07	Total Recoverable Calcium	6/18/2020	0.054	Y	y	v j		0.10	0.014	mg/L
EB-4-061220	2017168-07	Total Recoverable Magnesium	6/18/2020	0.05	Y	n	u		0.050	0.019	mg/L
EB-4-061220	2017168-07	Total Recoverable Potassium	6/18/2020	1	Y	n	u		1.0	0.10	mg/L
EB-4-061220	2017168-07	Total Recoverable Iron	6/18/2020	50	Y	n	u		50	30	ug/L
EB-4-061220	2017168-07	Total Recoverable Sodium	6/18/2020	0.14	Y	y	v j		0.50	0.051	mg/L
MW-3-1	2017168-06	Total Recoverable Sodium	6/18/2020	23	Y	y	v		0.50	0.051	mg/L
MW-3-1	2017168-06	Total Recoverable Calcium	6/18/2020	53	Y	y	v		0.10	0.014	mg/L

SDG: 2017168

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-1	2017168-06	Total Recoverable Magnesium	6/18/2020	18	Y	y	v		0.050	0.019	mg/L
MW-3-1	2017168-06	Total Recoverable Iron	6/18/2020	250	Y	y	v		50	30	ug/L
MW-3-1	2017168-06	Total Recoverable Potassium	6/18/2020	2.9	Y	y	v		1.0	0.10	mg/L
MW-3-2	2017168-02	Total Recoverable Magnesium	6/18/2020	21	Y	y	v		0.050	0.019	mg/L
MW-3-2	2017168-02	Total Recoverable Calcium	6/18/2020	67	Y	y	v		0.10	0.014	mg/L
MW-3-2	2017168-02	Total Recoverable Iron	6/18/2020	540	Y	y	v		50	30	ug/L
MW-3-2	2017168-02	Total Recoverable Potassium	6/18/2020	2.9	Y	y	v		1.0	0.10	mg/L
MW-3-2	2017168-02	Total Recoverable Sodium	6/18/2020	22	Y	y	v		0.50	0.051	mg/L
MW-3-3	2017168-05	Total Recoverable Sodium	6/18/2020	28	Y	y	v		0.50	0.051	mg/L
MW-3-3	2017168-05	Total Recoverable Magnesium	6/18/2020	20	Y	y	v		0.050	0.019	mg/L
MW-3-3	2017168-05	Total Recoverable Calcium	6/18/2020	66	Y	y	v		0.10	0.014	mg/L
MW-3-3	2017168-05	Total Recoverable Potassium	6/18/2020	2.8	Y	y	v		1.0	0.10	mg/L
MW-3-3	2017168-05	Total Recoverable Iron	6/18/2020	9300	Y	y	v		50	30	ug/L
MW-3-4	2017168-04	Total Recoverable Sodium	6/18/2020	33	Y	y	v		0.50	0.051	mg/L
MW-3-4	2017168-04	Total Recoverable Magnesium	6/18/2020	21	Y	y	v		0.050	0.019	mg/L
MW-3-4	2017168-04	Total Recoverable Potassium	6/18/2020	2.9	Y	y	v		1.0	0.10	mg/L
MW-3-4	2017168-04	Total Recoverable Iron	6/18/2020	18000	Y	y	v		50	30	ug/L
MW-3-4	2017168-04	Total Recoverable Calcium	6/18/2020	68	Y	y	v		0.10	0.014	mg/L
MW-3-5	2017168-03	Total Recoverable Calcium	6/18/2020	70	Y	y	v		0.10	0.014	mg/L
MW-3-5	2017168-03	Total Recoverable Iron	6/18/2020	71000	Y	y	v		50	30	ug/L
MW-3-5	2017168-03	Total Recoverable Potassium	6/18/2020	2.8	Y	y	v		1.0	0.10	mg/L
MW-3-5	2017168-03	Total Recoverable Sodium	6/18/2020	33	Y	y	v		0.50	0.051	mg/L
MW-3-5	2017168-03	Total Recoverable Magnesium	6/18/2020	21	Y	y	v		0.050	0.019	mg/L

SDG: 2017168

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4-061220	2017168-07	Total Recoverable Arsenic	6/19/2020	2	Y	n	u		2.0	0.70	ug/L
EB-4-061220	2017168-07	Total Recoverable Chromium	6/19/2020	3	Y	n	u		3.0	0.50	ug/L
EB-4-061220	2017168-07	Total Recoverable Lead	6/19/2020	1	Y	n	u		1.0	0.10	ug/L
MW-3-1	2017168-06	Total Recoverable Chromium	6/19/2020	3	Y	n	u		3.0	0.50	ug/L
MW-3-1	2017168-06	Total Recoverable Arsenic	6/19/2020	2	Y	n	u		2.0	0.70	ug/L
MW-3-1	2017168-06	Total Recoverable Lead	6/19/2020	1	Y	n	u		1.0	0.10	ug/L
MW-3-2	2017168-02	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	ug/L
MW-3-2	2017168-02	Total Recoverable Chromium	6/18/2020	3	Y	n	u		3.0	0.50	ug/L
MW-3-2	2017168-02	Total Recoverable Arsenic	6/18/2020	0.78	Y	y	v j		2.0	0.70	ug/L
MW-3-3	2017168-05	Total Recoverable Chromium	6/19/2020	4.6	Y	y	v		3.0	0.50	ug/L
MW-3-3	2017168-05	Total Recoverable Arsenic	6/19/2020	2.4	Y	y	v		2.0	0.70	ug/L
MW-3-3	2017168-05	Total Recoverable Lead	6/19/2020	1	Y	n	u		1.0	0.10	ug/L
MW-3-4	2017168-04	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	ug/L
MW-3-4	2017168-04	Total Recoverable Chromium	6/18/2020	44	Y	y	v		3.0	0.50	ug/L
MW-3-4	2017168-04	Total Recoverable Arsenic	6/18/2020	26	Y	y	v		2.0	0.70	ug/L
MW-3-5	2017168-03	Total Recoverable Arsenic	6/18/2020	77	Y	y	v		2.0	0.70	ug/L
MW-3-5	2017168-03	Total Recoverable Chromium	6/18/2020	140	Y	y	v		3.0	0.50	ug/L
MW-3-5	2017168-03	Total Recoverable Lead	6/18/2020	1	Y	n	u		1.0	0.10	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
EB-4-061220	2017168-07	Hexavalent Chromium	6/17/2020	######	Y	y	v j		0.0002	0.00003	mg/L
MW-3-1	2017168-06	Hexavalent Chromium	6/17/2020	######	Y	y	v j		0.0002	0.00003	mg/L
MW-3-2	2017168-02	Hexavalent Chromium	6/16/2020	0.00036	Y	y	v		0.0002	0.00003	mg/L
MW-3-3	2017168-05	Hexavalent Chromium	6/16/2020	0.00038	Y	y	v		0.0002	0.00003	mg/L

SDG: 2017168

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-3-4	2017168-04	Hexavalent Chromium	6/16/2020	0.00031	Y	y	v		0.0002	0.00003	mg/L
MW-3-5	2017168-03	Hexavalent Chromium	6/16/2020	0.00034	Y	y	v		0.0002	0.00003	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**
EB-4-061220	2017168-07	Sulfate	6/13/2020	0.24	Y	y	v j		1.0	0.14	mg/L
EB-4-061220	2017168-07	Nitrate as N	6/13/2020	0.081	Y	y	v j		0.10	0.024	mg/L
EB-4-061220	2017168-07	Chloride	6/13/2020	0.14	Y	y	v j		0.50	0.13	mg/L
MW-3-1	2017168-06	Chloride	6/13/2020	9.8	Y	y	v		0.50	0.13	mg/L
MW-3-1	2017168-06	Nitrate as N	6/13/2020	0.13	Y	y	v		0.10	0.024	mg/L
MW-3-1	2017168-06	Sulfate	6/13/2020	32	Y	y	v		1.0	0.14	mg/L
MW-3-2	2017168-02	Nitrate as N	6/12/2020	0.68	Y	y	v		0.10	0.024	mg/L
MW-3-2	2017168-02	Chloride	6/12/2020	15	Y	y	v		0.50	0.13	mg/L
MW-3-2	2017168-02	Sulfate	6/12/2020	49	Y	y	v		1.0	0.14	mg/L
MW-3-3	2017168-05	Nitrate as N	6/13/2020	1.3	Y	y	v		0.10	0.024	mg/L
MW-3-3	2017168-05	Chloride	6/13/2020	25	Y	y	v		0.50	0.13	mg/L
MW-3-3	2017168-05	Sulfate	6/13/2020	46	Y	y	v		1.0	0.14	mg/L
MW-3-4	2017168-04	Chloride	6/13/2020	31	Y	y	v		0.50	0.13	mg/L
MW-3-4	2017168-04	Nitrate as N	6/13/2020	1.7	Y	y	v		0.10	0.024	mg/L
MW-3-4	2017168-04	Sulfate	6/13/2020	46	Y	y	v		1.0	0.14	mg/L
MW-3-5	2017168-03	Sulfate	6/13/2020	47	Y	y	v		1.0	0.14	mg/L
MW-3-5	2017168-03	Nitrate as N	6/13/2020	1.8	Y	y	v		0.10	0.024	mg/L
MW-3-5	2017168-03	Chloride	6/13/2020	32	Y	y	v		0.50	0.13	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**

SDG: 2017168

Analytical Method EPA-314.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4-061220	2017168-07	Perchlorate	6/18/2020	4	Y	n	u		4.0	0.81	ug/L
MW-3-1	2017168-06	Perchlorate	6/18/2020	4	Y	n	u		4.0	0.81	ug/L
MW-3-2	2017168-02	Perchlorate	6/18/2020	4	Y	n	u		4.0	0.81	ug/L
MW-3-3	2017168-05	Perchlorate	6/18/2020	2	Y	y	v j		4.0	0.81	ug/L
MW-3-4	2017168-04	Perchlorate	6/18/2020	3	Y	y	v j		4.0	0.81	ug/L
MW-3-5	2017168-03	Perchlorate	6/18/2020	2.6	Y	y	v j		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
EB-4-061220	2017168-07	Nitrite as N	6/12/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-3-1	2017168-06	Nitrite as N	6/12/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-3-2	2017168-02	Nitrite as N	6/12/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-3-3	2017168-05	Nitrite as N	6/12/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-3-4	2017168-04	Nitrite as N	6/12/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-3-5	2017168-03	Nitrite as N	6/12/2020	0.05	Y	n	u		0.050	0.010	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
EB-4-061220	2017168-07	Bromomethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-4-061220	2017168-07	tert-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-4-061220	2017168-07	Benzene	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-4-061220	2017168-07	Bromobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4-061220	2017168-07	Bromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-4-061220	2017168-07	Bromodichloromethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-4-061220	2017168-07	Bromoform	6/17/2020	0.5	Y	n	u	UJ	0.50	0.46	ug/L
EB-4-061220	2017168-07	Vinyl chloride	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L

SDG: 2017168

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-4-061220	2017168-07	1,2,3-Trichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4-061220	2017168-07	Ethyl methacrylate	6/17/2020	4	Y	n	u		4.0	1.3	ug/L
EB-4-061220	2017168-07	Diethyl ether	6/17/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
EB-4-061220	2017168-07	trans-1,4-Dichloro-2-butene	6/17/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
EB-4-061220	2017168-07	Carbon disulfide	6/17/2020	1	Y	n	u		1.0	0.48	ug/L
EB-4-061220	2017168-07	t-Butyl alcohol	6/17/2020	10	Y	n	u		10	9.4	ug/L
EB-4-061220	2017168-07	t-Amyl Methyl ether	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4-061220	2017168-07	Allyl chloride	6/17/2020	5	Y	n	u		5.0	0.47	ug/L
EB-4-061220	2017168-07	Hexachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-4-061220	2017168-07	Acetone	6/17/2020	10	Y	n	u		10	6.6	ug/L
EB-4-061220	2017168-07	2-Hexanone	6/17/2020	10	Y	n	u		10	5.0	ug/L
EB-4-061220	2017168-07	1,3,5-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	n-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4-061220	2017168-07	1,1,2-Trichloro-1,2,2-trifluoroethane	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4-061220	2017168-07	Trichlorofluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	Trichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4-061220	2017168-07	1,1,2-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4-061220	2017168-07	1,1,1-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4-061220	2017168-07	1,2,4-Trichlorobenzene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
EB-4-061220	2017168-07	Acrylonitrile	6/17/2020	5	Y	n	u		5.0	1.5	ug/L
EB-4-061220	2017168-07	p- & m-Xylenes	6/17/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-4-061220	2017168-07	2-Nitropropane	6/17/2020	0	Y	y	v				ug/L
EB-4-061220	2017168-07	Nitrobenzene	6/17/2020	0	Y	y	v				ug/L
EB-4-061220	2017168-07	Methyl acrylate	6/17/2020	0	Y	y	v				ug/L
EB-4-061220	2017168-07	1,1-Dichloropropanone	6/17/2020	0	Y	y	v				ug/L

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EB-4-061220	2017168-07	1-Chlorobutane	6/17/2020	0	Y	y	v				ug/L
EB-4-061220	2017168-07	Chloroacetonitrile	6/17/2020	0	Y	y	v				ug/L
EB-4-061220	2017168-07	4-Bromofluorobenzene (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
EB-4-061220	2017168-07	Toluene-d8 (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
EB-4-061220	2017168-07	Ethyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-4-061220	2017168-07	o-Xylene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-4-061220	2017168-07	1,2,3-Trichloropropane	6/17/2020	1	Y	n	u		1.0	0.78	ug/L
EB-4-061220	2017168-07	Tetrahydrofuran	6/17/2020	20	Y	n	u		20	5.2	ug/L
EB-4-061220	2017168-07	Propionitrile	6/17/2020	20	Y	n	u		20	6.2	ug/L
EB-4-061220	2017168-07	Pentachloroethane	6/17/2020	2	Y	n	u		2.0	0.63	ug/L
EB-4-061220	2017168-07	Methyl methacrylate	6/17/2020	5	Y	n	u		5.0	1.2	ug/L
EB-4-061220	2017168-07	Methyl isobutyl ketone	6/17/2020	10	Y	n	u		10	2.4	ug/L
EB-4-061220	2017168-07	Methyl iodide	6/17/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-4-061220	2017168-07	Methyl ethyl ketone	6/17/2020	10	Y	n	u		10	3.3	ug/L
EB-4-061220	2017168-07	Methacrylonitrile	6/17/2020	10	Y	n	u		10	2.3	ug/L
EB-4-061220	2017168-07	1,2-Dichloroethane-d4 (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
EB-4-061220	2017168-07	Dibromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-4-061220	2017168-07	1,1-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-4-061220	2017168-07	1,2-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4-061220	2017168-07	1,1-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4-061220	2017168-07	Dichlorodifluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4-061220	2017168-07	1,4-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4-061220	2017168-07	Toluene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4-061220	2017168-07	1,2-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4-061220	2017168-07	1,2,4-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L

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EB-4-061220	2017168-07	cis-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-4-061220	2017168-07	1,2-Dibromo-3-chloropropane	6/17/2020	1	Y	n	u		1.0	0.89	ug/L
EB-4-061220	2017168-07	1,3-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-4-061220	2017168-07	4-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-4-061220	2017168-07	2-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	Chloromethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-4-061220	2017168-07	Chloroform	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	Chloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4-061220	2017168-07	Chlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	Carbon tetrachloride	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4-061220	2017168-07	sec-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-4-061220	2017168-07	1,2-Dibromoethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-4-061220	2017168-07	1,1,1,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4-061220	2017168-07	Tetrachloroethene	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-4-061220	2017168-07	Dibromomethane	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-4-061220	2017168-07	1,1,2,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4-061220	2017168-07	trans-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-4-061220	2017168-07	Styrene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-4-061220	2017168-07	n-Propylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-4-061220	2017168-07	Naphthalene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
EB-4-061220	2017168-07	Methyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	Methylene chloride	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-4-061220	2017168-07	1,1-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-4-061220	2017168-07	p-Isopropyltoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	2,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L

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EB-4-061220	2017168-07	1,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4-061220	2017168-07	cis-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	trans-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-4-061220	2017168-07	Ethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-4-061220	2017168-07	Hexachlorobutadiene	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-4-061220	2017168-07	Isopropylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-4-061220	2017168-07	1,3-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2017168-06	Chloromethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-1	2017168-06	sec-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2017168-06	Chloroform	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	Chloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2017168-06	Chlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	Carbon tetrachloride	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2017168-06	tert-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-1	2017168-06	n-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2017168-06	Bromomethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-1	2017168-06	Bromoform	6/17/2020	0.5	Y	n	u	UJ	0.50	0.46	ug/L
MW-3-1	2017168-06	1,3-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2017168-06	Bromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-1	2017168-06	Bromobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2017168-06	Benzene	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-1	2017168-06	2-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	Bromodichloromethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-1	2017168-06	Allyl chloride	6/17/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-1	2017168-06	Toluene-d8 (Surrogate)	6/17/2020	10	Y	y	v s				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-3-1	2017168-06	4-Bromofluorobenzene (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
MW-3-1	2017168-06	Chloroacetonitrile	6/17/2020	0	Y	y	v				ug/L
MW-3-1	2017168-06	trans-1,4-Dichloro-2-butene	6/17/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-3-1	2017168-06	1-Chlorobutane	6/17/2020	0	Y	y	v				ug/L
MW-3-1	2017168-06	Methyl acrylate	6/17/2020	0	Y	y	v				ug/L
MW-3-1	2017168-06	Nitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-3-1	2017168-06	Trichlorofluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	t-Amyl Methyl ether	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2017168-06	Carbon disulfide	6/17/2020	1	Y	n	u		1.0	0.48	ug/L
MW-3-1	2017168-06	Acrylonitrile	6/17/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-1	2017168-06	Acetone	6/17/2020	10	Y	n	u		10	6.6	ug/L
MW-3-1	2017168-06	Vinyl chloride	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-1	2017168-06	1,3,5-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	1,2,4-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2017168-06	1,1,2-Trichloro-1,2,2-trifluoroethane	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2017168-06	1,2,3-Trichloropropane	6/17/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-1	2017168-06	2-Nitropropane	6/17/2020	0	Y	y	v				ug/L
MW-3-1	2017168-06	Methyl methacrylate	6/17/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-1	2017168-06	Diethyl ether	6/17/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-3-1	2017168-06	Ethyl methacrylate	6/17/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-1	2017168-06	Ethyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-1	2017168-06	Hexachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-1	2017168-06	2-Hexanone	6/17/2020	10	Y	n	u		10	5.0	ug/L
MW-3-1	2017168-06	Methacrylonitrile	6/17/2020	10	Y	n	u		10	2.3	ug/L
MW-3-1	2017168-06	Methyl ethyl ketone	6/17/2020	10	Y	n	u		10	3.3	ug/L

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MW-3-1	2017168-06	1,2-Dichloroethane-d4 (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
MW-3-1	2017168-06	Methyl isobutyl ketone	6/17/2020	10	Y	n	u		10	2.4	ug/L
MW-3-1	2017168-06	t-Butyl alcohol	6/17/2020	10	Y	n	u		10	9.4	ug/L
MW-3-1	2017168-06	Pentachloroethane	6/17/2020	2	Y	n	u		2.0	0.63	ug/L
MW-3-1	2017168-06	Propionitrile	6/17/2020	20	Y	n	u		20	6.2	ug/L
MW-3-1	2017168-06	Tetrahydrofuran	6/17/2020	20	Y	n	u		20	5.2	ug/L
MW-3-1	2017168-06	p- & m-Xylenes	6/17/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-1	2017168-06	o-Xylene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2017168-06	trans-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2017168-06	4-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-1	2017168-06	1,1-Dichloropropanone	6/17/2020	0	Y	y	v				ug/L
MW-3-1	2017168-06	Methyl iodide	6/17/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-1	2017168-06	cis-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-1	2017168-06	1,4-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2017168-06	Dichlorodifluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2017168-06	Methylene chloride	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2017168-06	Isopropylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	1,1-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2017168-06	1,2-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2017168-06	Methyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	Ethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2017168-06	p-Isopropyltoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	trans-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-1	2017168-06	1,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-1	2017168-06	Trichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-3-1	2017168-06	2,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-1	2017168-06	1,1-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2017168-06	cis-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-1	2017168-06	1,1-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-1	2017168-06	1,1,1,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2017168-06	1,1,2-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2017168-06	1,1,1-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2017168-06	1,2,4-Trichlorobenzene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-3-1	2017168-06	1,2,3-Trichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-1	2017168-06	Toluene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2017168-06	Tetrachloroethene	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-1	2017168-06	Hexachlorobutadiene	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-1	2017168-06	1,1,2,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-1	2017168-06	Naphthalene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-3-1	2017168-06	1,2-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-1	2017168-06	1,3-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-1	2017168-06	n-Propylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-1	2017168-06	Styrene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-1	2017168-06	Dibromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-1	2017168-06	Dibromomethane	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-1	2017168-06	1,2-Dibromoethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-1	2017168-06	1,2-Dibromo-3-chloropropane	6/17/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-2	2017168-02	cis-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2017168-02	1,4-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2017168-02	Chlorobenzene	6/17/2020	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-3-2	2017168-02	p-Isopropyltoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2017168-02	Isopropylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2017168-02	Hexachlorobutadiene	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-2	2017168-02	Ethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2017168-02	Carbon tetrachloride	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2017168-02	trans-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-2	2017168-02	tert-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-2	2017168-02	Benzene	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-2	2017168-02	Dibromomethane	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-2	2017168-02	Bromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-2	2017168-02	Bromodichloromethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-2	2017168-02	Bromoform	6/17/2020	0.5	Y	n	u	UJ	0.50	0.46	ug/L
MW-3-2	2017168-02	Bromomethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-2	2017168-02	Bromobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2017168-02	t-Butyl alcohol	6/17/2020	10	Y	n	u		10	9.4	ug/L
MW-3-2	2017168-02	Chloroform	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2017168-02	Chloromethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-2	2017168-02	2-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2017168-02	4-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-2	2017168-02	Dibromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-2	2017168-02	1,1-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2017168-02	1,2-Dibromoethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-2	2017168-02	1,1-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2017168-02	1,2-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2017168-02	1,3-Dichlorobenzene	6/17/2020	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-3-2	2017168-02	Dichlorodifluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2017168-02	Chloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2017168-02	1,2-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2017168-02	1,1-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-2	2017168-02	cis-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-2	2017168-02	trans-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2017168-02	1,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2017168-02	1,3-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-2	2017168-02	2,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-2	2017168-02	1,2-Dibromo-3-chloropropane	6/17/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-2	2017168-02	o-Xylene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-2	2017168-02	Ethyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-2	2017168-02	Hexachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-2	2017168-02	2-Hexanone	6/17/2020	10	Y	n	u		10	5.0	ug/L
MW-3-2	2017168-02	Methylene chloride	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2017168-02	Methyl ethyl ketone	6/17/2020	10	Y	n	u		10	3.3	ug/L
MW-3-2	2017168-02	Allyl chloride	6/17/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-2	2017168-02	Methyl isobutyl ketone	6/17/2020	10	Y	n	u		10	2.4	ug/L
MW-3-2	2017168-02	Methyl methacrylate	6/17/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-2	2017168-02	Pentachloroethane	6/17/2020	2	Y	n	u		2.0	0.63	ug/L
MW-3-2	2017168-02	Propionitrile	6/17/2020	20	Y	n	u		20	6.2	ug/L
MW-3-2	2017168-02	Ethyl methacrylate	6/17/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-2	2017168-02	p- & m-Xylenes	6/17/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-2	2017168-02	Methacrylonitrile	6/17/2020	10	Y	n	u		10	2.3	ug/L
MW-3-2	2017168-02	1,2-Dichloroethane-d4 (Surrogate)	6/17/2020	9.4	Y	y	v s				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-3-2	2017168-02	Toluene-d8 (Surrogate)	6/17/2020	9.9	Y	y	v s				ug/L
MW-3-2	2017168-02	4-Bromofluorobenzene (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
MW-3-2	2017168-02	Chloroacetonitrile	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	1-Chlorobutane	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	1,1-Dichloropropanone	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Methyl acrylate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Nitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	2-Nitropropane	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	sec-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-2	2017168-02	n-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-2	2017168-02	Tetrahydrofuran	6/17/2020	20	Y	n	u		20	5.2	ug/L
MW-3-2	2017168-02	Toluene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2017168-02	Methyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2017168-02	Naphthalene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-3-2	2017168-02	n-Propylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-2	2017168-02	Styrene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-2	2017168-02	1,1,1,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2017168-02	Methyl iodide	6/17/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-2	2017168-02	Tetrachloroethene	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-2	2017168-02	Diethyl ether	6/17/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-3-2	2017168-02	1,2,3-Trichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2017168-02	1,2,4-Trichlorobenzene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-3-2	2017168-02	1,1,1-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2017168-02	1,1,2-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-2	2017168-02	Acetone	6/17/2020	10	Y	n	u		10	6.6	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-3-2	2017168-02	Carbon disulfide	6/17/2020	1	Y	n	u		1.0	0.48	ug/L
MW-3-2	2017168-02	trans-1,4-Dichloro-2-butene	6/17/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-3-2	2017168-02	1,1,2,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2017168-02	Trichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2017168-02	Acrylonitrile	6/17/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-2	2017168-02	Vinyl chloride	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-2	2017168-02	1,3,5-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2017168-02	1,2,4-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-2	2017168-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-2	2017168-02	1,2,3-Trichloropropane	6/17/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-2	2017168-02	Trichlorofluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-2	2017168-02	t-Amyl Methyl ether	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2017168-05	1,2-Dichloroethane-d4 (Surrogate)	6/17/2020	9.8	Y	y	v s				ug/L
MW-3-3	2017168-05	Nitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-3-3	2017168-05	Methyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	2-Nitropropane	6/17/2020	0	Y	y	v				ug/L
MW-3-3	2017168-05	Methyl acrylate	6/17/2020	0	Y	y	v				ug/L
MW-3-3	2017168-05	1,1-Dichloropropanone	6/17/2020	0	Y	y	v				ug/L
MW-3-3	2017168-05	1-Chlorobutane	6/17/2020	0	Y	y	v				ug/L
MW-3-3	2017168-05	Chloroacetonitrile	6/17/2020	0	Y	y	v				ug/L
MW-3-3	2017168-05	Toluene-d8 (Surrogate)	6/17/2020	9.8	Y	y	v s				ug/L
MW-3-3	2017168-05	4-Bromofluorobenzene (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
MW-3-3	2017168-05	trans-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2017168-05	Naphthalene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-3-3	2017168-05	1,2-Dichlorobenzene	6/17/2020	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-3-3	2017168-05	1,3-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-3	2017168-05	1,4-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2017168-05	Dichlorodifluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2017168-05	1,1-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2017168-05	1,2-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2017168-05	1,2-Dibromoethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-3	2017168-05	cis-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-3	2017168-05	1,2-Dibromo-3-chloropropane	6/17/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-3	2017168-05	1,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2017168-05	1,3-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-3	2017168-05	2,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-3	2017168-05	1,1-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2017168-05	cis-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	trans-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-3	2017168-05	Ethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2017168-05	Isopropylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	1,1-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-3	2017168-05	tert-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-3	2017168-05	p-Isopropyltoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	Benzene	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-3	2017168-05	Bromobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2017168-05	Bromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-3	2017168-05	Bromodichloromethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-3	2017168-05	Bromoform	6/17/2020	0.5	Y	n	u	UJ	0.50	0.46	ug/L
MW-3-3	2017168-05	Bromomethane	6/17/2020	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-3-3	2017168-05	Dibromomethane	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-3	2017168-05	sec-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-3	2017168-05	Methylene chloride	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2017168-05	Carbon tetrachloride	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2017168-05	Chlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	Chloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2017168-05	Chloroform	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	Chloromethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-3	2017168-05	2-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	4-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-3	2017168-05	Dibromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-3	2017168-05	n-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-3	2017168-05	Methyl ethyl ketone	6/17/2020	10	Y	n	u		10	3.3	ug/L
MW-3-3	2017168-05	t-Amyl Methyl ether	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2017168-05	Hexachlorobutadiene	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-3	2017168-05	Carbon disulfide	6/17/2020	1	Y	n	u		1.0	0.48	ug/L
MW-3-3	2017168-05	trans-1,4-Dichloro-2-butene	6/17/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-3-3	2017168-05	Diethyl ether	6/17/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-3-3	2017168-05	Ethyl methacrylate	6/17/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-3	2017168-05	Ethyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-3	2017168-05	Hexachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-3	2017168-05	n-Propylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-3	2017168-05	Methacrylonitrile	6/17/2020	10	Y	n	u		10	2.3	ug/L
MW-3-3	2017168-05	Allyl chloride	6/17/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-3	2017168-05	Methyl iodide	6/17/2020	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-3-3	2017168-05	Methyl isobutyl ketone	6/17/2020	10	Y	n	u		10	2.4	ug/L
MW-3-3	2017168-05	Methyl methacrylate	6/17/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-3	2017168-05	Pentachloroethane	6/17/2020	2	Y	n	u		2.0	0.63	ug/L
MW-3-3	2017168-05	Propionitrile	6/17/2020	20	Y	n	u		20	6.2	ug/L
MW-3-3	2017168-05	Tetrahydrofuran	6/17/2020	20	Y	n	u		20	5.2	ug/L
MW-3-3	2017168-05	p- & m-Xylenes	6/17/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-3	2017168-05	o-Xylene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-3	2017168-05	2-Hexanone	6/17/2020	10	Y	n	u		10	5.0	ug/L
MW-3-3	2017168-05	1,2,4-Trichlorobenzene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-3-3	2017168-05	Styrene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-3	2017168-05	1,1,1,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2017168-05	1,1,2,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2017168-05	Tetrachloroethene	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-3	2017168-05	t-Butyl alcohol	6/17/2020	10	Y	n	u		10	9.4	ug/L
MW-3-3	2017168-05	1,2,3-Trichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2017168-05	Acrylonitrile	6/17/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-3	2017168-05	1,1,1-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2017168-05	1,1,2-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-3	2017168-05	Trichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2017168-05	Trichlorofluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	1,2,3-Trichloropropane	6/17/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-3	2017168-05	1,1,2-Trichloro-1,2,2-trifluoroethane	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-3	2017168-05	1,2,4-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-3	2017168-05	1,3,5-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-3	2017168-05	Vinyl chloride	6/17/2020	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-3-3	2017168-05	Acetone	6/17/2020	10	Y	n	u		10	6.6	ug/L
MW-3-3	2017168-05	Toluene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2017168-04	1-Chlorobutane	6/17/2020	0	Y	y	v				ug/L
MW-3-4	2017168-04	2-Nitropropane	6/17/2020	0	Y	y	v				ug/L
MW-3-4	2017168-04	Nitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-3-4	2017168-04	Methyl acrylate	6/17/2020	0	Y	y	v				ug/L
MW-3-4	2017168-04	Chloroacetonitrile	6/17/2020	0	Y	y	v				ug/L
MW-3-4	2017168-04	Chloroform	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	1,4-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2017168-04	1,3-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-4	2017168-04	1,2-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2017168-04	Dibromomethane	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-4	2017168-04	1,2-Dibromoethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-4	2017168-04	1,2-Dibromo-3-chloropropane	6/17/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-4	2017168-04	Dibromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-4	2017168-04	4-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-4	2017168-04	Bromoform	6/17/2020	0.5	Y	n	u	UJ	0.50	0.46	ug/L
MW-3-4	2017168-04	Chloromethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-4	2017168-04	1,2-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2017168-04	Chloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2017168-04	Chlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	Carbon tetrachloride	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2017168-04	tert-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-4	2017168-04	sec-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-4	2017168-04	n-Butylbenzene	6/17/2020	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-3-4	2017168-04	Bromomethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-4	2017168-04	1,1-Dichloropropanone	6/17/2020	0	Y	y	v				ug/L
MW-3-4	2017168-04	2-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	trans-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-4	2017168-04	1,1,1,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2017168-04	Styrene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-4	2017168-04	n-Propylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-4	2017168-04	Naphthalene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-3-4	2017168-04	Methyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	Methylene chloride	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2017168-04	p-Isopropyltoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	Isopropylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	Dichlorodifluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2017168-04	Ethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2017168-04	1,1-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2017168-04	cis-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	1,1-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2017168-04	2,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-4	2017168-04	1,3-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-4	2017168-04	1,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2017168-04	trans-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2017168-04	cis-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-4	2017168-04	1,1-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-4	2017168-04	Bromodichloromethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-4	2017168-04	Hexachlorobutadiene	6/17/2020	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-3-4	2017168-04	Methyl methacrylate	6/17/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-4	2017168-04	trans-1,4-Dichloro-2-butene	6/17/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-3-4	2017168-04	Diethyl ether	6/17/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-3-4	2017168-04	Ethyl methacrylate	6/17/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-4	2017168-04	Ethyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-4	2017168-04	Hexachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-4	2017168-04	2-Hexanone	6/17/2020	10	Y	n	u		10	5.0	ug/L
MW-3-4	2017168-04	Methacrylonitrile	6/17/2020	10	Y	n	u		10	2.3	ug/L
MW-3-4	2017168-04	Methyl ethyl ketone	6/17/2020	10	Y	n	u		10	3.3	ug/L
MW-3-4	2017168-04	t-Butyl alcohol	6/17/2020	10	Y	n	u		10	9.4	ug/L
MW-3-4	2017168-04	Methyl isobutyl ketone	6/17/2020	10	Y	n	u		10	2.4	ug/L
MW-3-4	2017168-04	t-Amyl Methyl ether	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2017168-04	Pentachloroethane	6/17/2020	2	Y	n	u		2.0	0.63	ug/L
MW-3-4	2017168-04	Propionitrile	6/17/2020	20	Y	n	u		20	6.2	ug/L
MW-3-4	2017168-04	Tetrahydrofuran	6/17/2020	20	Y	n	u		20	5.2	ug/L
MW-3-4	2017168-04	p- & m-Xylenes	6/17/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-4	2017168-04	o-Xylene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-4	2017168-04	1,2-Dichloroethane-d4 (Surrogate)	6/17/2020	9.7	Y	y	v s				ug/L
MW-3-4	2017168-04	Toluene-d8 (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
MW-3-4	2017168-04	4-Bromofluorobenzene (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
MW-3-4	2017168-04	Methyl iodide	6/17/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-4	2017168-04	Trichlorofluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	Bromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-4	2017168-04	Bromobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-4	2017168-04	Benzene	6/17/2020	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-3-4	2017168-04	Tetrachloroethene	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-4	2017168-04	Toluene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2017168-04	1,2,3-Trichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2017168-04	1,2,4-Trichlorobenzene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-3-4	2017168-04	1,1,1-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-4	2017168-04	Carbon disulfide	6/17/2020	1	Y	n	u		1.0	0.48	ug/L
MW-3-4	2017168-04	Trichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2017168-04	1,1,2,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2017168-04	1,2,3-Trichloropropane	6/17/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-4	2017168-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-4	2017168-04	1,2,4-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-4	2017168-04	1,3,5-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-4	2017168-04	Vinyl chloride	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-4	2017168-04	Acetone	6/17/2020	10	Y	n	u		10	6.6	ug/L
MW-3-4	2017168-04	Acrylonitrile	6/17/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-4	2017168-04	Allyl chloride	6/17/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-4	2017168-04	1,1,2-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2017168-03	1,1-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2017168-03	Acetone	6/17/2020	10	Y	n	u		10	6.6	ug/L
MW-3-5	2017168-03	Ethyl methacrylate	6/17/2020	4	Y	n	u		4.0	1.3	ug/L
MW-3-5	2017168-03	Diethyl ether	6/17/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
MW-3-5	2017168-03	trans-1,4-Dichloro-2-butene	6/17/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-3-5	2017168-03	Carbon disulfide	6/17/2020	1	Y	n	u		1.0	0.48	ug/L
MW-3-5	2017168-03	t-Butyl alcohol	6/17/2020	10	Y	n	u		10	9.4	ug/L
MW-3-5	2017168-03	t-Amyl Methyl ether	6/17/2020	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-3-5	2017168-03	2-Nitropropane	6/17/2020	0	Y	y	v				ug/L
MW-3-5	2017168-03	Acrylonitrile	6/17/2020	5	Y	n	u		5.0	1.5	ug/L
MW-3-5	2017168-03	2-Hexanone	6/17/2020	10	Y	n	u		10	5.0	ug/L
MW-3-5	2017168-03	Vinyl chloride	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-5	2017168-03	1,3,5-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2017168-03	1,2,4-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2017168-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2017168-03	1,2,3-Trichloropropane	6/17/2020	1	Y	n	u		1.0	0.78	ug/L
MW-3-5	2017168-03	Trichlorofluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2017168-03	Trichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2017168-03	Allyl chloride	6/17/2020	5	Y	n	u		5.0	0.47	ug/L
MW-3-5	2017168-03	p- & m-Xylenes	6/17/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-3-5	2017168-03	Nitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-3-5	2017168-03	Methyl acrylate	6/17/2020	0	Y	y	v				ug/L
MW-3-5	2017168-03	1,1-Dichloropropanone	6/17/2020	0	Y	y	v				ug/L
MW-3-5	2017168-03	1-Chlorobutane	6/17/2020	0	Y	y	v				ug/L
MW-3-5	2017168-03	Chloroacetonitrile	6/17/2020	0	Y	y	v				ug/L
MW-3-5	2017168-03	4-Bromofluorobenzene (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
MW-3-5	2017168-03	Toluene-d8 (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
MW-3-5	2017168-03	Ethyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-3-5	2017168-03	o-Xylene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-5	2017168-03	Hexachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-5	2017168-03	Tetrahydrofuran	6/17/2020	20	Y	n	u		20	5.2	ug/L
MW-3-5	2017168-03	Pentachloroethane	6/17/2020	2	Y	n	u		2.0	0.63	ug/L
MW-3-5	2017168-03	Methyl isobutyl ketone	6/17/2020	10	Y	n	u		10	2.4	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-3-5	2017168-03	Methyl iodide	6/17/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-3-5	2017168-03	Methyl ethyl ketone	6/17/2020	10	Y	n	u		10	3.3	ug/L
MW-3-5	2017168-03	Methacrylonitrile	6/17/2020	10	Y	n	u		10	2.3	ug/L
MW-3-5	2017168-03	1,2,4-Trichlorobenzene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
MW-3-5	2017168-03	1,2-Dichloroethane-d4 (Surrogate)	6/17/2020	9.6	Y	y	v s				ug/L
MW-3-5	2017168-03	Dibromomethane	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-5	2017168-03	1,1,2-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2017168-03	1,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2017168-03	trans-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2017168-03	cis-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-5	2017168-03	1,1-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-5	2017168-03	1,2-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2017168-03	Dichlorodifluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2017168-03	2,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-5	2017168-03	1,2-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2017168-03	1,1-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2017168-03	1,2-Dibromoethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-5	2017168-03	1,2-Dibromo-3-chloropropane	6/17/2020	1	Y	n	u		1.0	0.89	ug/L
MW-3-5	2017168-03	Dibromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-3-5	2017168-03	4-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-3-5	2017168-03	2-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2017168-03	Chloromethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-5	2017168-03	1,4-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2017168-03	1,3-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-3-5	2017168-03	Methyl t-butyl ether	6/17/2020	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-3-5	2017168-03	Propionitrile	6/17/2020	20	Y	n	u		20	6.2	ug/L
MW-3-5	2017168-03	1,2,3-Trichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-3-5	2017168-03	Toluene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2017168-03	Tetrachloroethene	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-3-5	2017168-03	1,1,2,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2017168-03	1,1,1,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2017168-03	Styrene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-5	2017168-03	1,3-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-5	2017168-03	Naphthalene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
MW-3-5	2017168-03	1,1,1-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2017168-03	Methylene chloride	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-3-5	2017168-03	p-Isopropyltoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2017168-03	Isopropylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2017168-03	Hexachlorobutadiene	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-5	2017168-03	Ethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2017168-03	trans-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-5	2017168-03	cis-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2017168-03	n-Propylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-3-5	2017168-03	Bromodichloromethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-3-5	2017168-03	Carbon tetrachloride	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2017168-03	Methyl methacrylate	6/17/2020	5	Y	n	u		5.0	1.2	ug/L
MW-3-5	2017168-03	Benzene	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-3-5	2017168-03	Bromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-3-5	2017168-03	Bromoform	6/17/2020	0.5	Y	n	u	UJ	0.50	0.46	ug/L
MW-3-5	2017168-03	Bromomethane	6/17/2020	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-3-5	2017168-03	n-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-3-5	2017168-03	sec-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-3-5	2017168-03	tert-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-3-5	2017168-03	Chloroform	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2017168-03	Chloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-3-5	2017168-03	Chlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-3-5	2017168-03	Bromobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4-061220	2017168-01	Methyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	1,1-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4-061220	2017168-01	trans-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4-061220	2017168-01	1,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4-061220	2017168-01	1,3-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-4-061220	2017168-01	2,2-Dichloropropane	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-4-061220	2017168-01	cis-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	trans-1,3-Dichloropropene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-4-061220	2017168-01	Ethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4-061220	2017168-01	Hexachlorobutadiene	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-4-061220	2017168-01	Isopropylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	Methylene chloride	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4-061220	2017168-01	1,2-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4-061220	2017168-01	p-Isopropyltoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	Chloromethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-4-061220	2017168-01	Bromobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4-061220	2017168-01	Bromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-4-061220	2017168-01	Bromodichloromethane	6/17/2020	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
TB-4-061220	2017168-01	Bromoform	6/17/2020	0.5	Y	n	u	UJ	0.50	0.46	ug/L
TB-4-061220	2017168-01	Bromomethane	6/17/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-4-061220	2017168-01	n-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4-061220	2017168-01	sec-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-4-061220	2017168-01	tert-Butylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-4-061220	2017168-01	Carbon tetrachloride	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4-061220	2017168-01	Chlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	Benzene	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-4-061220	2017168-01	cis-1,2-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-4-061220	2017168-01	Chloroform	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	t-Amyl Methyl ether	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4-061220	2017168-01	2-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	4-Chlorotoluene	6/17/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-4-061220	2017168-01	Dibromochloromethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-4-061220	2017168-01	1,2-Dibromo-3-chloropropane	6/17/2020	1	Y	n	u		1.0	0.89	ug/L
TB-4-061220	2017168-01	1,2-Dibromoethane	6/17/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-4-061220	2017168-01	Dibromomethane	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-4-061220	2017168-01	1,2-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4-061220	2017168-01	1,3-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-4-061220	2017168-01	1,4-Dichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4-061220	2017168-01	Dichlorodifluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4-061220	2017168-01	1,1-Dichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-4-061220	2017168-01	Chloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4-061220	2017168-01	Methyl ethyl ketone	6/17/2020	10	Y	n	u		10	3.3	ug/L
TB-4-061220	2017168-01	1,1-Dichloropropanone	6/17/2020	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
TB-4-061220	2017168-01	1-Chlorobutane	6/17/2020	0	Y	y	v				ug/L
TB-4-061220	2017168-01	Chloroacetonitrile	6/17/2020	0	Y	y	v				ug/L
TB-4-061220	2017168-01	4-Bromofluorobenzene (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
TB-4-061220	2017168-01	Toluene-d8 (Surrogate)	6/17/2020	9.9	Y	y	v s				ug/L
TB-4-061220	2017168-01	1,2-Dichloroethane-d4 (Surrogate)	6/17/2020	10	Y	y	v s				ug/L
TB-4-061220	2017168-01	o-Xylene	6/17/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-4-061220	2017168-01	p- & m-Xylenes	6/17/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-4-061220	2017168-01	Tetrahydrofuran	6/17/2020	20	Y	n	u		20	5.2	ug/L
TB-4-061220	2017168-01	Propionitrile	6/17/2020	20	Y	n	u		20	6.2	ug/L
TB-4-061220	2017168-01	Methyl acrylate	6/17/2020	0	Y	y	v				ug/L
TB-4-061220	2017168-01	Methyl iodide	6/17/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-4-061220	2017168-01	Pentachloroethane	6/17/2020	2	Y	n	u		2.0	0.63	ug/L
TB-4-061220	2017168-01	Methacrylonitrile	6/17/2020	10	Y	n	u		10	2.3	ug/L
TB-4-061220	2017168-01	2-Hexanone	6/17/2020	10	Y	n	u		10	5.0	ug/L
TB-4-061220	2017168-01	Hexachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-4-061220	2017168-01	Ethyl t-butyl ether	6/17/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-4-061220	2017168-01	Ethyl methacrylate	6/17/2020	4	Y	n	u		4.0	1.3	ug/L
TB-4-061220	2017168-01	Diethyl ether	6/17/2020	2	Y	n	u	UJ	2.0	0.33	ug/L
TB-4-061220	2017168-01	trans-1,4-Dichloro-2-butene	6/17/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
TB-4-061220	2017168-01	Carbon disulfide	6/17/2020	1	Y	n	u		1.0	0.48	ug/L
TB-4-061220	2017168-01	Naphthalene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.16	ug/L
TB-4-061220	2017168-01	1,1-Dichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-4-061220	2017168-01	Methyl methacrylate	6/17/2020	5	Y	n	u		5.0	1.2	ug/L
TB-4-061220	2017168-01	1,2,4-Trichlorobenzene	6/17/2020	0.5	Y	n	u	UJ	0.50	0.15	ug/L
TB-4-061220	2017168-01	n-Propylbenzene	6/17/2020	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
TB-4-061220	2017168-01	Methyl isobutyl ketone	6/17/2020	10	Y	n	u		10	2.4	ug/L
TB-4-061220	2017168-01	Nitrobenzene	6/17/2020	0	Y	y	v				ug/L
TB-4-061220	2017168-01	1,1,1,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4-061220	2017168-01	1,1,2,2-Tetrachloroethane	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4-061220	2017168-01	Tetrachloroethene	6/17/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-4-061220	2017168-01	Toluene	6/17/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-4-061220	2017168-01	t-Butyl alcohol	6/17/2020	10	Y	n	u		10	9.4	ug/L
TB-4-061220	2017168-01	Styrene	6/17/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-4-061220	2017168-01	1,1,1-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4-061220	2017168-01	1,1,2-Trichloroethane	6/17/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-4-061220	2017168-01	Acetone	6/17/2020	10	Y	n	u		10	6.6	ug/L
TB-4-061220	2017168-01	2-Nitropropane	6/17/2020	0	Y	y	v				ug/L
TB-4-061220	2017168-01	Allyl chloride	6/17/2020	5	Y	n	u		5.0	0.47	ug/L
TB-4-061220	2017168-01	1,2,3-Trichlorobenzene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4-061220	2017168-01	Acrylonitrile	6/17/2020	5	Y	n	u		5.0	1.5	ug/L
TB-4-061220	2017168-01	Trichloroethene	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4-061220	2017168-01	Vinyl chloride	6/17/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-4-061220	2017168-01	1,3,5-Trimethylbenzene	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/17/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-4-061220	2017168-01	1,2,3-Trichloropropane	6/17/2020	1	Y	n	u		1.0	0.78	ug/L
TB-4-061220	2017168-01	Trichlorofluoromethane	6/17/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-4-061220	2017168-01	1,2,4-Trimethylbenzene	6/17/2020	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

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Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-2	2017168-02	4,4'-DDT	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-3-2	2017168-02	Dimethyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Diethyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Dieldrin	6/17/2020	3	Y	n	u		3.0	0.39	ug/L
MW-3-2	2017168-02	3,3-Dichlorobenzidine	6/17/2020	10	Y	n	u		10	0.53	ug/L
MW-3-2	2017168-02	1,4-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.27	ug/L
MW-3-2	2017168-02	Dibenzofuran	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	1,2-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	4,4'-DDE	6/17/2020	3	Y	n	u		3.0	0.24	ug/L
MW-3-2	2017168-02	Dibenzo[a,h]anthracene	6/17/2020	3	Y	n	u		3.0	0.34	ug/L
MW-3-2	2017168-02	Di-n-butyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	1,3-Dichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	2,4-Dinitrotoluene	6/17/2020	2	Y	n	u		2.0	0.40	ug/L
MW-3-2	2017168-02	2,6-Dinitrotoluene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Di-n-octyl phthalate	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-3-2	2017168-02	1,2-Diphenylhydrazine	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Isophorone	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	2-Methylnaphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Naphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Heptachlor	6/17/2020	2	Y	n	u	UJ	2.0	0.20	ug/L
MW-3-2	2017168-02	2-Nitroaniline	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	4-Nitroaniline	6/17/2020	5	Y	n	u		5.0	0.38	ug/L
MW-3-2	2017168-02	Nitrobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	4,4'-DDD	6/17/2020	2	Y	n	u		2.0	0.26	ug/L
MW-3-2	2017168-02	Acenaphthylene	6/17/2020	2	Y	n	u		2.0	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-3-2	2017168-02	3-Nitroaniline	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-3-2	2017168-02	Benzyl butyl phthalate	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	N-Nitrosodi-N-propylamine	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-3-2	2017168-02	N-Nitrosodiphenylamine	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Acenaphthene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Aldrin	6/17/2020	2	Y	n	u		2.0	0.23	ug/L
MW-3-2	2017168-02	Anthracene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Benzidine	6/17/2020	20	Y	n	u	UJ	20	1.6	ug/L
MW-3-2	2017168-02	Benzo[a]anthracene	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-3-2	2017168-02	Benzo[b]fluoranthene	6/17/2020	2	Y	n	u		2.0	0.24	ug/L
MW-3-2	2017168-02	Benzo[k]fluoranthene	6/17/2020	2	Y	n	u		2.0	0.30	ug/L
MW-3-2	2017168-02	Benzo[a]pyrene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Benzo[g,h,i]perylene	6/17/2020	2	Y	n	u		2.0	0.33	ug/L
MW-3-2	2017168-02	Aniline	6/17/2020	5	Y	n	u		5.0	0.28	ug/L
MW-3-2	2017168-02	Benzyl alcohol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Chrysene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	alpha-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	beta-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	delta-BHC	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	gamma-BHC (Lindane)	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	bis(2-Chloroethoxy)methane	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	bis(2-Chloroethyl) ether	6/17/2020	2	Y	n	u		2.0	0.31	ug/L
MW-3-2	2017168-02	2-Naphthylamine	6/17/2020	20	Y	n	u	UJ	20	1.3	ug/L
MW-3-2	2017168-02	bis(2-Ethylhexyl)phthalate	6/17/2020	4	Y	n	u		4.0	0.20	ug/L
MW-3-2	2017168-02	4-Bromophenyl phenyl ether	6/17/2020	2	Y	n	u		2.0	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-3-2	2017168-02	4-Chloroaniline	6/17/2020	2	Y	n	u		2.0	1.1	ug/L
MW-3-2	2017168-02	2-Chloronaphthalene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	4-Chlorophenyl phenyl ether	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Benzoic acid	6/17/2020	10	Y	n	u		10	0.52	ug/L
MW-3-2	2017168-02	Endosulfan II	6/17/2020	10	Y	n	u		10	0.30	ug/L
MW-3-2	2017168-02	Indeno[1,2,3-cd]pyrene	6/17/2020	2	Y	n	u		2.0	0.29	ug/L
MW-3-2	2017168-02	Demeton-S	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	2,4-Diaminotoluene	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Dibenz[a,j]acridine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Dibenzo[a,e]pyrene	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	1,2-Dibromo-3-chloropropane	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Dichlone	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Dichlorvos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Dicrotophos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Diethylstilbestrol	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Diethyl sulfate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	2-Cyclohexyl-4,6-dinitrophenol	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Endosulfan I	6/17/2020	10	Y	n	u	UJ	10	0.31	ug/L
MW-3-2	2017168-02	Crotoxyphos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Endosulfan sulfate	6/17/2020	3	Y	n	u		3.0	0.23	ug/L
MW-3-2	2017168-02	Endrin	6/17/2020	2	Y	n	u		2.0	0.38	ug/L
MW-3-2	2017168-02	Endrin aldehyde	6/17/2020	10	Y	n	u		10	0.44	ug/L
MW-3-2	2017168-02	Fluoranthene	6/17/2020	2	Y	n	u		2.0	0.28	ug/L
MW-3-2	2017168-02	Fluorene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	bis(2-Chloroisopropyl)ether	6/17/2020	2	Y	n	u	UJ	2.0	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-3-2	2017168-02	Heptachlor epoxide	6/17/2020	2	Y	n	u		2.0	0.26	ug/L
MW-3-2	2017168-02	Hexachlorobenzene	6/17/2020	2	Y	n	u		2.0	0.25	ug/L
MW-3-2	2017168-02	Hexachlorobutadiene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Hexachlorocyclopentadiene	6/17/2020	2	Y	n	u		2.0	0.31	ug/L
MW-3-2	2017168-02	2-Fluorophenol (Surrogate)	6/17/2020	28	Y	y	v s				ug/L
MW-3-2	2017168-02	Dihydrosafrole	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Captafol	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Phenol-d5 (Surrogate)	6/17/2020	18	Y	y	v s				ug/L
MW-3-2	2017168-02	Nitrobenzene-d5 (Surrogate)	6/17/2020	38	Y	y	v s				ug/L
MW-3-2	2017168-02	2-Fluorobiphenyl (Surrogate)	6/17/2020	32	Y	y	v s				ug/L
MW-3-2	2017168-02	2,4,6-Tribromophenol (Surrogate)	6/17/2020	42	Y	y	v s				ug/L
MW-3-2	2017168-02	p-Terphenyl-d14 (Surrogate)	6/17/2020	14	Y	y	v s				ug/L
MW-3-2	2017168-02	1-Acetyl-2-thiourea	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	3-Amino-9-ethylcarbazole	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	N-Nitrosodimethylamine	6/17/2020	2	Y	n	u		2.0	1.2	ug/L
MW-3-2	2017168-02	o-Anisidine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Azinphos methyl	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Barban	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Demeton-O	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Bromoxynil	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	3,3'-Dimethoxybenzidine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Captan	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Carbaryl	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Carbofuran	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Carbophenothion	6/17/2020	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-3-2	2017168-02	Chlorfenvinphos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	5-Chloro-2-methylaniline	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	3-(Chloromethyl) pyridine hydrochloride	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	4-Chloro-1,2-phenylenediamine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	4-Chloro-1,3-phenylenediamine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Coumaphos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	p-Cresidine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	p-Benzoquinone	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Strychnine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Hexachloroethane	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	4-Nitrobiphenyl	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Nitrophen	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Octamethylpyrophosphoramide	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	4,4'-Oxydianiline	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Phenobarbital	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Phosalone	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Phosmet	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Phosphamidon	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Phthalic anhydride	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Piperonyl sulfoxide	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	5-Nitroacenaphthene	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Resorcinol	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Nicotine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Sulfallate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Terbufos	6/17/2020	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-3-2	2017168-02	Tetrachlorvinphos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	TEPP	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Thiophenol (Benzenethiol)	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Toluene 2,4-diisocyanate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Trifluralin	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	2,4,5-Trimethylaniline	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Trimethyl phosphate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Tris(2,3-dibromopropyl) phosphate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Tri-p-tolyl phosphate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Propylthiouracil	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Hydroquinone	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	1,2-Dinitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	1,4-Dinitrobenzene	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Dinocap	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Dioxathion	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	5,5-Diphenylhydantoin	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Endrin ketone	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	EPN	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Ethion	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Ethyl carbamate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Fensulfothion	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Fenthion	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	5-Nitro-o-anisidine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Hexamethylphosphoramide	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	2-Aminoanthraquinone	6/17/2020	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-3-2	2017168-02	Leptophos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Malathion	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Maleic Anhydride	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Mestranol	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	4,4'-Methylenebis(2-chloroaniline)	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	4,4'-Methylenebis[N,N-dimethylaniline]	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Mevinphos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Mexacarbate	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Mirex	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Monocrotophos	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Naled	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Fluchloralin	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Ethyl methacrylate	6/17/2020	10	Y	n	u	UJ	10	1.2	ug/L
MW-3-2	2017168-02	Tris(hydroxymethyl)nitromethane	6/17/2020	50	Y	n	u		50	5.0	ug/L
MW-3-2	2017168-02	cis-Diallate	6/17/2020	5	Y	n	u		5.0	2.4	ug/L
MW-3-2	2017168-02	trans-Diallate	6/17/2020	5	Y	n	u		5.0	0.56	ug/L
MW-3-2	2017168-02	Diallate	6/17/2020	10	Y	n	u		10	3.0	ug/L
MW-3-2	2017168-02	2,6-Dichlorophenol	6/17/2020	10	Y	n	u		10	0.28	ug/L
MW-3-2	2017168-02	Dimethoate	6/17/2020	20	Y	n	u		20	0.99	ug/L
MW-3-2	2017168-02	p-(Dimethylamino)azobenzene	6/17/2020	10	Y	n	u	UJ	10	0.27	ug/L
MW-3-2	2017168-02	7,12-Dimethylbenz[a]anthracene	6/17/2020	10	Y	n	u		10	0.37	ug/L
MW-3-2	2017168-02	3,3'-Dimethylbenzidine	6/17/2020	20	Y	n	u	UJ	20	0.42	ug/L
MW-3-2	2017168-02	a,a-Dimethylphenethylamine	6/17/2020	20	Y	n	u		20	4.9	ug/L
MW-3-2	2017168-02	Dimethyl sulfoxide (DMSO)	6/17/2020	10	Y	n	u		10	9.5	ug/L
MW-3-2	2017168-02	1,3-Dinitrobenzene	6/17/2020	10	Y	n	u		10	0.93	ug/L

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MW-3-2	2017168-02	Dinoseb	6/17/2020	10	Y	n	u		10	0.91	ug/L
MW-3-2	2017168-02	Chlorobenzilate	6/17/2020	10	Y	n	u		10	0.27	ug/L
MW-3-2	2017168-02	Isodrin	6/17/2020	10	Y	n	u		10	0.43	ug/L
MW-3-2	2017168-02	3-Methylcholanthrene	6/17/2020	10	Y	n	u		10	0.31	ug/L
MW-3-2	2017168-02	Anilazine	6/17/2020	0	Y	y	v				ug/L
MW-3-2	2017168-02	Methapyrilene	6/17/2020	10	Y	n	u		10	2.9	ug/L
MW-3-2	2017168-02	Kepone	6/17/2020	20	Y	n	u		20	2.2	ug/L
MW-3-2	2017168-02	Isosafrole	6/17/2020	10	Y	n	u		10	0.73	ug/L
MW-3-2	2017168-02	Diphenylamine	6/17/2020	10	Y	n	u		10	0.61	ug/L
MW-3-2	2017168-02	cis-Isosafrole	6/17/2020	5	Y	n	u		5.0	0.44	ug/L
MW-3-2	2017168-02	Disulfoton	6/17/2020	10	Y	n	u	UJ	10	0.33	ug/L
MW-3-2	2017168-02	Hexachloropropene	6/17/2020	20	Y	n	u		20	0.23	ug/L
MW-3-2	2017168-02	Hexachlorophene	6/17/2020	200	Y	n	u	UJ	200	20	ug/L
MW-3-2	2017168-02	Famphur	6/17/2020	20	Y	n	u	UJ	20	4.1	ug/L
MW-3-2	2017168-02	Ethyl Parathion	6/17/2020	10	Y	n	u	UJ	10	0.53	ug/L
MW-3-2	2017168-02	Ethyl methanesulfonate	6/17/2020	10	Y	n	u		10	0.61	ug/L
MW-3-2	2017168-02	trans-Chlordane	6/17/2020	5	Y	n	u		5.0	0.55	ug/L
MW-3-2	2017168-02	trans-Isosafrole	6/17/2020	5	Y	n	u		5.0	0.29	ug/L
MW-3-2	2017168-02	Phenol	6/17/2020	2	Y	n	u		2.0	0.21	ug/L
MW-3-2	2017168-02	Phenanthrene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Pyrene	6/17/2020	2	Y	n	u		2.0	0.22	ug/L
MW-3-2	2017168-02	1,2,4-Trichlorobenzene	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	4-Chloro-3-methylphenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-3-2	2017168-02	2-Chlorophenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	2,4-Dichlorophenol	6/17/2020	2	Y	n	u		2.0	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-3-2	2017168-02	2,4-Dimethylphenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	4,6-Dinitro-2-methylphenol	6/17/2020	10	Y	n	u		10	0.24	ug/L
MW-3-2	2017168-02	2,4-Dinitrophenol	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-3-2	2017168-02	2-Methylphenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	3- & 4-Methylphenol	6/17/2020	2	Y	n	u		2.0	0.40	ug/L
MW-3-2	2017168-02	Total Methylphenol	6/17/2020	4	Y	n	u		4.0	0.60	ug/L
MW-3-2	2017168-02	2-Nitrophenol	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	1-Chloronaphthalene	6/17/2020	10	Y	n	u		10	0.37	ug/L
MW-3-2	2017168-02	4-Aminobiphenyl	6/17/2020	20	Y	n	u		20	0.35	ug/L
MW-3-2	2017168-02	cis-Chlordane	6/17/2020	5	Y	n	u	UJ	5.0	0.59	ug/L
MW-3-2	2017168-02	Carbazole	6/17/2020	2	Y	n	u		2.0	0.20	ug/L
MW-3-2	2017168-02	Caprolactam	6/17/2020	10	Y	n	u		10	3.6	ug/L
MW-3-2	2017168-02	1,1-Biphenyl	6/17/2020	10	Y	n	u		10	3.6	ug/L
MW-3-2	2017168-02	Benefin	6/17/2020	10	Y	n	u		10	0.88	ug/L
MW-3-2	2017168-02	4-Nitrophenol	6/17/2020	2	Y	n	u		2.0	0.30	ug/L
MW-3-2	2017168-02	Aramite	6/17/2020	10	Y	n	u	UJ	10	0.35	ug/L
MW-3-2	2017168-02	Pentachlorophenol	6/17/2020	10	Y	n	u		10	0.40	ug/L
MW-3-2	2017168-02	Acrolein, dimethyl acetal	6/17/2020	40	Y	n	u		40	6.1	ug/L
MW-3-2	2017168-02	2-Acetylaminofluorene	6/17/2020	10	Y	n	u		10	0.78	ug/L
MW-3-2	2017168-02	Acetophenone	6/17/2020	10	Y	n	u		10	0.33	ug/L
MW-3-2	2017168-02	2,4,6-Trichlorophenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-3-2	2017168-02	2,4,5-Trichlorophenol	6/17/2020	5	Y	n	u		5.0	0.20	ug/L
MW-3-2	2017168-02	Methyl methacrylate	6/17/2020	40	Y	n	u		40	3.8	ug/L
MW-3-2	2017168-02	Benzaldehyde	6/17/2020	10	Y	n	u		10	2.9	ug/L
MW-3-2	2017168-02	Toxaphene	6/17/2020	100	Y	n	u		100	50	ug/L

SDG: 2017168

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-3-2	2017168-02	Pronamide	6/17/2020	10	Y	n	u		10	0.22	ug/L
MW-3-2	2017168-02	Sulfotep	6/17/2020	10	Y	n	u		10	0.23	ug/L
MW-3-2	2017168-02	Safrole	6/17/2020	10	Y	n	u		10	0.40	ug/L
MW-3-2	2017168-02	Pyridine	6/17/2020	10	Y	n	u		10	1.6	ug/L
MW-3-2	2017168-02	2,3,4,5-Tetrachlorophenol	6/17/2020	10	Y	n	u		10	5.0	ug/L
MW-3-2	2017168-02	Prowl	6/17/2020	10	Y	n	u		10	0.83	ug/L
MW-3-2	2017168-02	Methyl methanesulfonate	6/17/2020	10	Y	n	u		10	0.40	ug/L
MW-3-2	2017168-02	Propyleneglycol monomethyl ether acetate	6/17/2020	10	Y	n	u		10	3.7	ug/L
MW-3-2	2017168-02	Methoxychlor	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-3-2	2017168-02	1,2,4,5-Tetrachlorobenzene	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-3-2	2017168-02	o,o,o-Triethylphosphorothioate	6/17/2020	10	Y	n	u		10	0.44	ug/L
MW-3-2	2017168-02	PCB-1242	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	2-Toluidine	6/17/2020	10	Y	n	u		10	0.41	ug/L
MW-3-2	2017168-02	Thionazin	6/17/2020	10	Y	n	u		10	0.38	ug/L
MW-3-2	2017168-02	2,3,4,6-Tetrachlorophenol	6/17/2020	10	Y	n	u		10	0.73	ug/L
MW-3-2	2017168-02	PCB-1260	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	PCB-1221	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	PCB-1232	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	PCB-1254	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	PCB-1248	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	Total PCB's (Summation)	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	Prometryn	6/17/2020	10	Y	n	u		10	1.7	ug/L
MW-3-2	2017168-02	1,3,5-Trinitrobenzene	6/17/2020	10	Y	n	u		10	1.4	ug/L
MW-3-2	2017168-02	N-Nitrosopiperidine	6/17/2020	10	Y	n	u		10	0.47	ug/L

SDG: 2017168

Analytical Method	EPA-8270C										
Sample ID	**Lab Sample ID**	**Chemical Name**	**Anal Date**	**Result**	**Report**	**Detect**	**Lab Qual**	**Val Qual**	**RL**	**MDL**	**Units**
MW-3-2	2017168-02	1-Methylnaphthalene	6/17/2020	10	Y	n	u		10	0.26	ug/L
MW-3-2	2017168-02	Methyl parathion	6/17/2020	10	Y	n	u	UJ	10	0.71	ug/L
MW-3-2	2017168-02	N-Methyl-2-pyrrolidinone	6/17/2020	10	Y	n	u		10	2.5	ug/L
MW-3-2	2017168-02	1,4-Naphthoquinone	6/17/2020	20	Y	n	u	UJ	20	0.87	ug/L
MW-3-2	2017168-02	1-Naphthylamine	6/17/2020	20	Y	n	u	UJ	20	0.30	ug/L
MW-3-2	2017168-02	5-Nitro-o-toluidine	6/17/2020	10	Y	n	u		10	0.85	ug/L
MW-3-2	2017168-02	4-Nitroquinoline 1-oxide	6/17/2020	20	Y	n	u		20	0.95	ug/L
MW-3-2	2017168-02	N-Nitrosodibutylamine	6/17/2020	10	Y	n	u		10	0.26	ug/L
MW-3-2	2017168-02	N-Nitrosodiethylamine	6/17/2020	10	Y	n	u		10	0.55	ug/L
MW-3-2	2017168-02	PCB-1016	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	N-Nitrosomorpholine	6/17/2020	10	Y	n	u		10	0.63	ug/L
MW-3-2	2017168-02	N-Nitrosopyrrolidine	6/17/2020	10	Y	n	u		10	0.39	ug/L
MW-3-2	2017168-02	Pentachlorobenzene	6/17/2020	10	Y	n	u		10	0.20	ug/L
MW-3-2	2017168-02	Pentachloroethane	6/17/2020	20	Y	n	u		20	0.31	ug/L
MW-3-2	2017168-02	Pentachloronitrobenzene	6/17/2020	10	Y	n	u		10	0.42	ug/L
MW-3-2	2017168-02	Phenacetin	6/17/2020	10	Y	n	u		10	0.75	ug/L
MW-3-2	2017168-02	1,4-Phenylenediamine	6/17/2020	20	Y	n	u		20	1.1	ug/L
MW-3-2	2017168-02	Phorate	6/17/2020	10	Y	n	u		10	0.35	ug/L
MW-3-2	2017168-02	2-Picoline	6/17/2020	10	Y	n	u		10	1.2	ug/L
MW-3-2	2017168-02	PCB-1268	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	PCB-1262	6/17/2020	50	Y	n	u	UJ	50	25	ug/L
MW-3-2	2017168-02	N-Nitrosomethylethylamine	6/17/2020	10	Y	n	u		10	0.61	ug/L

Analytical Method	SM-2320B										
Sample ID	**Lab Sample ID**	**Chemical Name**	**Anal Date**	**Result**	**Report**	**Detect**	**Lab Qual**	**Val Qual**	**RL**	**MDL**	**Units**

SDG: 2017168

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-4-061220	2017168-07	Carbonate	6/17/2020	2.5	Y	n	u		2.5	2.5	mg/L
EB-4-061220	2017168-07	Bicarbonate	6/17/2020	5	Y	n	u		5.0	5.0	mg/L
EB-4-061220	2017168-07	Total Alkalinity as CaCO3	6/17/2020	4.1	Y	n	u		4.1	4.1	mg/L
MW-3-1	2017168-06	Carbonate	6/17/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-3-1	2017168-06	Bicarbonate	6/17/2020	220	Y	y	v		5.0	5.0	mg/L
MW-3-1	2017168-06	Total Alkalinity as CaCO3	6/17/2020	180	Y	y	v		4.1	4.1	mg/L
MW-3-2	2017168-02	Total Alkalinity as CaCO3	6/17/2020	210	Y	y	v		4.1	4.1	mg/L
MW-3-2	2017168-02	Carbonate	6/17/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-3-2	2017168-02	Bicarbonate	6/17/2020	250	Y	y	v		5.0	5.0	mg/L
MW-3-3	2017168-05	Total Alkalinity as CaCO3	6/17/2020	190	Y	y	v		4.1	4.1	mg/L
MW-3-3	2017168-05	Bicarbonate	6/17/2020	230	Y	y	v		5.0	5.0	mg/L
MW-3-3	2017168-05	Carbonate	6/17/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-3-4	2017168-04	Bicarbonate	6/17/2020	240	Y	y	v		5.0	5.0	mg/L
MW-3-4	2017168-04	Carbonate	6/17/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-3-4	2017168-04	Total Alkalinity as CaCO3	6/17/2020	190	Y	y	v		4.1	4.1	mg/L
MW-3-5	2017168-03	Bicarbonate	6/17/2020	230	Y	y	v		5.0	5.0	mg/L
MW-3-5	2017168-03	Carbonate	6/17/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-3-5	2017168-03	Total Alkalinity as CaCO3	6/17/2020	190	Y	y	v		4.1	4.1	mg/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

August 12, 2020

SUBJECT: NASA JPL, 2Q2020, Data Validation

Dear Mr. Conner,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on July 21, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #48681:

SDG #	Fraction
2017309, 2017454 2017715, 2017828	Volatiles, Semivolatiles, 1,4-Dioxane, Metals, 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
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

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

Sincerely,

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

HC

Attachment 1

90/10 (client select) EDD

LDC #48681 (Tidewater- Powell, OH / NASA JPL, 2Q2020)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (524.2)		SVOA (8270C)		1,4-Dioxane (8270C)		Metals (200.7 /200.8)		Alk. (2320B)		Cl,SO_4 NO_3-N (300.0)		NO_2-N (353.2)		Cr(VI) (218.6)		CLO_4 (314.0)		TDS (160.1)		pH (150.1)													
Matrix:	Water/Soil			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	W	S
A	2017309	07/21/20	08/11/20	8	0	1	0	1	0	7	0	7	0	7	0	7	0	7	0	7	0	7	0	7	0	7	0										
B	2017454	07/21/20	08/11/20	7	0	-	-	-	-	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0	6	0										
B	2017454	07/21/20	08/11/20	1	0	-	-	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0										
C	2017715	07/21/20	08/11/20	8	0	-	-	-	-	7	0	7	0	7	0	7	0	7	0	7	0	7	0	7	0	7	0										
C	2017715	07/21/20	08/11/20	1	0	-	-	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0										
D	2017828	07/21/20	08/11/20	12	0	-	-	-	-	11	0	11	0	11	0	11	0	11	0	11	0	11	0	11	0	11	0										
D	2017828	07/21/20	08/11/20	1	0	-	-	-	-	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0										
Total	T/PG			38	0	1	0	1	0	34	0	34	0	34	0	34	0	34	0	34	0	34	0	34	0	34	0	0	0	0	0	0	0	0	0	0	312

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

L:\Tidewater\NASA JPL\48681ST.wpd

LDC Report# 48681A1a

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017309

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-5-061520	2017309-01	Water	06/15/20
MW-17-5	2017309-02	Water	06/15/20
MW-17-4	2017309-03	Water	06/15/20
MW-17-3	2017309-04	Water	06/15/20
MW-17-2	2017309-05	Water	06/15/20
MW-17-1	2017309-06	Water	06/15/20
EB-5-061520	2017309-07	Water	06/15/20
Dup-2-2Q2020	2017309-08	Water	06/15/20

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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/10/20	Diethyl ether	74.0	All samples in SDG 2017309	UJ (all non-detects)	P

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
06/17/20 (17JUN03)	Bromoform Naphthalene 1,2,4-Trichlorobenzene	38.0 41.2 31.4	All samples in SDG 2017309	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
06/17/20 (17JUN04)	trans-1,4-Dichloro-2-butene Methyl iodide	106 60.0	All samples in SDG 2017309	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-5-061520 was identified as a trip blank. No contaminants were found.

Sample EB-5-061520 was identified as an equipment 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

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-17-2 and Dup-2-2Q2020 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 ICV %D and continuing calibration %D, data were qualified as estimated in eight samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2017309

Sample	Compound	Flag	A or P	Reason
TB-5-061520 MW-17-5 MW-17-4 MW-17-3 MW-17-2 MW-17-1 EB-5-061520 Dup-2-2Q2020	Diethyl ether	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-5-061520 MW-17-5 MW-17-4 MW-17-3 MW-17-2 MW-17-1 EB-5-061520 Dup-2-2Q2020	Bromoform Naphthalene 1,2,4-Trichlorobenzene trans-1,4-Dichloro-2-butene Methyl iodide	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2017309

No Sample Data Qualified in this SDG

LDC #: 48681A1a

SDG #: 2017309

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/7/20

Page: 1 of 1

Reviewer: F

2nd Reviewer: JM

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/SW	RSD≤20%. r² ICV≤30%
IV.	Continuing calibration	SW	CCV≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=7.
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D=5+8
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-5-061520	2017309-01	Water	06/15/20
2	MW-17-5	2017309-02	Water	06/15/20
3	MW-17-4	2017309-03	Water	06/15/20
4	MW-17-3	2017309-04	Water	06/15/20
5	MW-17-2	2017309-05	Water	06/15/20
6	MW-17-1	2017309-06	Water	06/15/20
7	EB-5-061520	2017309-07	Water	06/15/20
8	Dup-2-2Q2020	2017309-08	Water	06/15/20
9				
10				

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.

LDC #: 48668A1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Page: 1 of 1
Reviewer:
2nd Reviewer: MC

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y (N) N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	8/10/20	101UN14	Diethyl ether	74.0	All (ND)	J/UA

ICVvoa_524.2.wpd

LDC #: 48684A9

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: 9
2nd Reviewer: SM

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
	6/17/20	IT1UN03	x	38.0	All (ND)	J/UJ/A
			MMM	41.2		
			kkk	31.4		
		IT1UN04	yyyy	106		
			Methyl Iodide	60.0		↓

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Semivolatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017309

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-17-3	2017309-04	Water	06/15/20

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:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270C

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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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, percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs) with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
06/26/20	2-Naphthyhlamine	67.48481	All samples in SDG 2017309	UJ (all non-detects)	A

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 20.0% for all compounds with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
06/26/20 (25JUN022)	Benzidine 2-Naphthylamine	23.1 69.4	All samples in SDG 2017309	UJ (all non-detects) UJ (all non-detects)	A
06/26/20 (25JUN024)	Hexachlorophene	38.7	All samples in SDG 2017309	UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

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 initial calibration %RSD and ICV %D, data were qualified as estimated in one sample.

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

NASA JPL, 2Q2020
Semivolatiles - Data Qualification Summary - SDG 2017309

Sample	Compound	Flag	A or P	Reason
MW-17-3	2-Naphthyhlamine	UJ (all non-detects)	A	Initial calibration (%RSD)
MW-17-3	Benzidine 2-Naphthylamine Hexachlorophene	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	A	Initial calibration verification (%D)

NASA JPL, 2Q2020
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 2017309

No Sample Data Qualified in this SDG

LDC #: 48681A2a

SDG #: 2017309

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/7/20

Page: 1 of 1

Reviewer: 9

2nd Reviewer: JVC

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

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/M	RSD≤30/15%. r² ICV≤20%
IV.	Continuing calibration	A	CCV≤20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS
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; 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-17-3	2017309-04	Water	06/15/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	CC. Dimethylphthalate	EEE. Bis(2-ethylhexyl)phthalate	GGGG. C30-Hopane	I1. Methyl methanesulfonate
B. Bis (2-chloroethyl) ether	DD. Acenaphthylene	FFF. Di-n-octylphthalate	HHHH. 1-Methylphenanthrene	J1. Ethyl methanesulfonate
C. 2-Chlorophenol	EE. 2,6-Dinitrotoluene	GGG. Benzo(b)fluoranthene	IIII. 1,4-Dioxane	K1. o,o',o''-Triethylphosphorothioate
D. 1,3-Dichlorobenzene	FF. 3-Nitroaniline	HHH. Benzo(k)fluoranthene	JJJJ. Acetophenone	L1. n-Phenylene diamine
E. 1,4-Dichlorobenzene	GG. Acenaphthene	III. Benzo(a)pyrene	KKKK. Atrazine	M1. 1,4-Naphthoquinone
F. 1,2-Dichlorobenzene	HH. 2,4-Dinitrophenol	JJJ. Indeno(1,2,3-cd)pyrene	LLLL. Benzaldehyde	N1. N-Nitro-o-toluidine
G. 2-Methylphenol	II. 4-Nitrophenol	KKK. Dibenz(a,h)anthracene	MMMM. Caprolactam	O1. 1,3,5-Trinitrobenzene
H. 2,2'-Oxybis(1-chloropropane)	JJ. Dibenzofuran	LLL. Benzo(g,h,i)perylene	NNNN. 2,6-Dichlorophenol	P1. Pentachlorobenzene
I. 4-Methylphenol	KK. 2,4-Dinitrotoluene	MMM. Bis(2-Chloroisopropyl)ether	OOOO. 1,2-Diphenylhydrazine	Q1. 4-Aminobiphenyl
J. N-Nitroso-di-n-propylamine	LL. Diethylphthalate	NNN. Aniline	PPPP. 3-Methylphenol	R1. 2-Naphthylamine
K. Hexachloroethane	MM. 4-Chlorophenyl-phenyl ether	OOO. N-Nitrosodimethylamine	QQQQ. 3&4-Methylphenol	S1. Triphenylene
L. Nitrobenzene	NN. Fluorene	PPP. Benzoic Acid	RRRR. 4-Dimethyldibenzothiophene (4MDT)	T1. Octachlorostyrene
M. Isophorone	OO. 4-Nitroaniline	QQQ. Benzyl alcohol	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	U1. Famphur
N. 2-Nitrophenol	PP. 4,6-Dinitro-2-methylphenol	RRR. Pyridine	TTTT. 1-Methyldibenzothiophene (1MDT)	V1. 1,4-phenylenediamine
O. 2,4-Dimethylphenol	QQ. N-Nitrosodiphenylamine	SSS. Benzidine	UUUU.. 2,3,4,6-Tetrachlorophenol	W1. Methapyrilene
P. Bis(2-chloroethoxy)methane	RR. 4-Bromophenyl-phenylether	TTT. 1-Methylnaphthalene	VVVV. 1,2,4,5-Tetrachlorobenzene	X1. Pentachloroethane
Q. 2,4-Dichlorophenol	SS. Hexachlorobenzene	UUU.Benzo(b)thiophene	WWWW.. 2-Picoline	Y1. 3,3'-Dimethylbenzidine
R. 1,2,4-Trichlorobenzene	TT. Pentachlorophenol	VVV.Benzonaphthothiophene	XXXX. 3-Methylcholanthrene	Z1. o-Toluidine
S. Naphthalene	UU. Phenanthrene	WWW.Benzo(e)pyrene	YYYY. a,a-Dimethylphenethylamine	A2. 1-Naphthylamine
T. 4-Chloroaniline	VV. Anthracene	XXX. 2,6-Dimethylnaphthalene	ZZZZ. Hexachloropropene	B2. 4-Aminobiphenyl
U. Hexachlorobutadiene	WW. Carbazole	YYY. 2,3,5-Trimethylnaphthalene	A1. N-Nitrosodiethylamine	C2. 4-Nitroquinoline-1-oxide
V. 4-Chloro-3-methylphenol	XX. Di-n-butylphthalate	ZZZ. Perylene	B1. N-Nitrosodi-n-butylamine	D2. Hexachloropene
W. 2-Methylnaphthalene	YY. Fluoranthene	AAAA. Dibenzothiophene	C1. N-Nitrosomethylethylamine	E2. Bis (2-chloro-1-methylethyl) ether
X. Hexachlorocyclopentadiene	ZZ. Pyrene	BBBB. Benzo(a)fluoranthene	D1. N-Nitrosomorpholine	F2. Bifenthrin
Y. 2,4,6-Trichlorophenol	AAA. Butylbenzylphthalate	CCCC. Benzo(b)fluorene	E1. N-Nitrosopyrrolidine	G2. Cyfluthrin
Z. 2,4,5-Trichlorophenol	BBB. 3,3'-Dichlorobenzidine	DDDD. cis/trans-Decalin	F1. Phenacetin	H2. Cypermethrin
AA. 2-Chloronaphthalene	CCC. Benzo(a)anthracene	EEEE. 1,1'-Biphenyl	G1. 2-Acetylaminofluorene	I2. Permethrin (cis/trans)
BB. 2-Nitroaniline	DDD. Chrysene	FFFF. Retene	H1. Pronamide	J2. 5-Nitro-o-toluidine

LDC #: 48681A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer:
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory conduct an acceptable 5 point calibration prior to sample analysis?

Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?

Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____

Y N N/A Did the initial calibration meet the acceptance criteria?

Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0/15%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/26/20	ICAL	R1	67.48481		All (ND)	J/UJ/A

LDC #: 48681A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer:
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y (N) N/A Were all %D within the validation criteria of ≤30 %D ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/26/20	25JUN022	SSS	23.1	All (ND)	J/UJ/A
			R1	69.4		↓
	6/26/20	25JUN024	Hexachlorophene	38.7		✓

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: 1,4-Dioxane

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017309

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-17-4	2017309-03	Water	06/15/20

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:

1,4-Dioxane by Environmental Protection Agency (EPA) SW 846 Method 8270C

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 not 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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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.

Where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

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.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

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.

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

NASA JPL, 2Q2020
1,4-Dioxane - Data Qualification Summary - SDG 2017309

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 2017309

No Sample Data Qualified in this SDG

LDC #: 48681A2c
SDG #: 2017309
Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 8/7/20
Page: 1 of 1
Reviewer: A
2nd Reviewer: AM

METHOD: GC/MS 1,4-Dioxane (EPA SW846 Method 8270C)

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 ≤ 15%. r² ICV ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS
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; 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-17-4	2017309-03	Water	06/15/20
2				
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9				

Notes:

LDC Report# 48681A4a

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Metals

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017309

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-17-5	2017309-02	Water	06/15/20
MW-17-4	2017309-03	Water	06/15/20
MW-17-3	2017309-04	Water	06/15/20
MW-17-2	2017309-05	Water	06/15/20
MW-17-1	2017309-06	Water	06/15/20
EB-5-061520	2017309-07	Water	06/15/20
Dup-2-2Q2020	2017309-08	Water	06/15/20

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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. 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	Arsenic Chromium	1.5210 ug/L 0.507 ug/L	MW-17-4 MW-17-3 MW-17-2 MW-17-1 EB-5-061520 Dup-2-2Q2020
ICB/CCB	Arsenic	0.703 ug/L	MW-17-5
ICB/CCB	Potassium	0.10966 mg/L	All samples in SDG 2017309

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-17-4	Arsenic Chromium	1.5 ug/L 1.8 ug/L	1.5U ug/L 1.8U ug/L
MW-17-2	Arsenic	1.3 ug/L	1.3U ug/L
MW-17-1	Arsenic Chromium	0.73 ug/L 0.55 ug/L	0.73U ug/L 0.55U ug/L
EB-5-061520	Chromium	0.52 ug/L	0.52U ug/L
MW-17-5	Arsenic	0.92 ug/L	0.92U ug/L

VI. Field Blanks

Sample EB-5-061520 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-5-061520	Calcium Sodium Chromium	0.040 mg/L 0.11 mg/L 0.52 ug/L

VII. 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.

VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

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 methods. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-17-2 and Dup-2-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-17-2	Dup-2-2Q2020	
Iron	510 ug/L	480 ug/L	6
Arsenic	1.3 ug/L	0.70U ug/L	Not calculable
Calcium	61 mg/L	60 mg/L	2
Magnesium	20 mg/L	19 mg/L	5
Sodium	20 mg/L	19 mg/L	5
Potassium	2.8 mg/L	2.7 mg/L	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 methods. No results were rejected in this SDG.

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, 2Q2020
Metals - Data Qualification Summary - SDG 2017309

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2017309

Sample	Analyte	Modified Final Concentration	A or P
MW-17-4	Arsenic Chromium	1.5U ug/L 1.8U ug/L	A
MW-17-2	Arsenic	1.3U ug/L	A
MW-17-1	Arsenic Chromium	0.73U ug/L 0.55U ug/L	A
EB-5-061520	Chromium	0.52U ug/L	A
MW-17-5	Arsenic	0.92U ug/L	A

LDC #: 48681A4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/16/2020
SDG #: 2017309 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DPM
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=6
VII.	Matrix Spike/Matrix Spike Duplicates	N	
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(4,7)
XII.	Internal Standard (ICP-MS)	AN	Not reviewed
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-17-5	2017309-02	Water	06/15/20
2	MW-17-4	2017309-03	Water	06/15/20
3	MW-17-3	2017309-04	Water	06/15/20
4	MW-17-2	2017309-05	Water	06/15/20
5	MW-17-1	2017309-06	Water	06/15/20
6	EB-5-061520	2017309-07	Water	06/15/20
7	Dup-2-2Q2020	2017309-08	Water	06/15/20
8				
9				
10				
11				
12				
13				

Notes:

LDC #: 48681A4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
All	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Analysis Method

ICP	W	Al, Sb, As, Ba, Be, B, Cd, [✓ Ca], Cr, Co, Cu, [✓ Fe], Pb, Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
ICP-MS	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
GFAA		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Comments: Mercury by CVAA if performed

LDC #: 48681A4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: DTM
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010/6020/7000) Soil preparation factor applied:____

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 2-7

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**2**	4	5	6							
As			1.5210	7.605	1.5	1.3	0.73								
Cr			0.507	2.535	1.8		0.55	0.52							

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 1

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**1**										
As			0.703	3.515	0.92										

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: ALL

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (mg/l)**	**Action Level**	**NO QUAL**										
K			0.10966	0.548											

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 #: 48681A4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:**
Sampling date: 6/152020
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: X flag

Analyte	Blank ID	Blank ID	Sample Identification										
	6		Action Limit	NO QUAL									
Cr (ug/L)	0.52												
Ca	0.049												
Na	0.16												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 48681A4a

VALIDATION FINDINGS WORKSHEET

Field Duplicates

Reviewer: DTM
2nd Reviewer: [signature]

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

Analyte	Concentration (ug/L)		RPD
	4	7	
Iron	510	480	6
Arsenic	1.3	0.70U	NC
Calcium (mg/L)	61	60	2
Magnesium (mg/L)	20	19	5
Sodium (mg/L)	20	19	5
Potassium (mg/L)	2.8	2.7	4

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017309

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-17-5	2017309-02	Water	06/15/20
MW-17-4	2017309-03	Water	06/15/20
MW-17-3	2017309-04	Water	06/15/20
MW-17-2	2017309-05	Water	06/15/20
MW-17-1	2017309-06	Water	06/15/20
EB-5-061520	2017309-07	Water	06/15/20
Dup-2-2Q2020	2017309-08	Water	06/15/20
MW-17-5MS	2017309-02MS	Water	06/15/20
MW-17-5MSD	2017309-02MSD	Water	06/15/20
MW-17-5DUP	2017309-02DUP	Water	06/15/20
MW-17-4MS	2017309-03MS	Water	06/15/20
MW-17-4MSD	2017309-03MSD	Water	06/15/20
MW-17-4DUP	2017309-03DUP	Water	06/15/20
MW-17-1MS	2017309-06MS	Water	06/15/20
MW-17-1MSD	2017309-06MSD	Water	06/15/20
MW-17-1DUP	2017309-06DUP	Water	06/15/20

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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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-17-5 MW-17-3	pH	52 hours	48 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	0.033 ug/L	MW-17-5 MW-17-4 MW-17-3 MW-17-2 MW-17-1 EB-5-061520 Dup-2-2Q2020

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-17-1	Hexavalent chromium	0.000056 mg/L	0.000056U mg/L

V. Field Blanks

Sample EB-5-061520 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-5-061520	pH Total dissolved solids	4.45 units 3.3 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-17-2 and Dup-2-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-17-2	Dup-2-2Q2020	
pH	8.01 units	8.09 units	1
Total dissolved solids	320 mg/L	310 mg/L	3
Chloride	9.9 mg/L	9.8 mg/L	1
Nitrate as N	0.057 mg/L	0.074 mg/L	26
Sulfate	32 mg/L	32 mg/L	0
Nitrite as N	0.010 mg/L	0.011 mg/L	10

Analyte	Concentration		RPD
	MW-17-2	Dup-2-2Q2020	
Total alkalinity'	210 mg/L	210 mg/L	0
Bicarbonate alkalinity	250 mg/L	260 mg/L	4

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 one sample.

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

NASA JPL, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2017309

Sample	Analyte	Flag	A or P	Reason
MW-17-5 MW-17-3	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2017309

Sample	Analyte	Modified Final Concentration	A or P
MW-17-1	Hexavalent chromium	0.000056U mg/L	A

LDC #: 48681A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/6/2020
SDG #: 2017309 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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=6
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(4,7)
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-17-5	2017309-02	Water	06/15/20
2	MW-17-4	2017309-03	Water	06/15/20
3	MW-17-3	2017309-04	Water	06/15/20
4	MW-17-2	2017309-05	Water	06/15/20
5	MW-17-1	2017309-06	Water	06/15/20
6	EB-5-061520	2017309-07	Water	06/15/20
7	Dup-2-2Q2020	2017309-08	Water	06/15/20
8	MW-17-5MS	2017309-02MS	Water	06/15/20
9	MW-17-5MSD	2017309-02MSD	Water	06/15/20
10	MW-17-5DUP	2017309-02DUP	Water	06/15/20
11	MW-17-4MS	2017309-03MS	Water	06/15/20
12	MW-17-4MSD	2017309-03MSD	Water	06/15/20
13	MW-17-4DUP	2017309-03DUP	Water	06/15/20
14	MW-17-1MS	2017309-06MS	Water	06/15/20
15	MW-17-1MSD	2017309-06MSD	Water	06/15/20
16	MW-17-1DUP	2017309-06DUP	Water	06/15/20

LDC #: 48681A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1-7	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 8-9	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 10	[✓ pH] [✓ TDS] Cl F NO_3 NO_2 SO_4 O-PO_4 [✓ Alk] CN NH_3 TKN TOC Cr6+ ClO_4 [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 11-13	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
QC 14-16	pH TDS [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 [✓ NO_3-N]
	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:

LDC #: 48681A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: DTM
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	EPA 150.1						
Parameters:	pH						
Technical holding time:	48hrs						
Sample ID	Sampling date	Analysis date	Total Time	Qualifier	Analysis date	Total Time	Qualifier
1	6/15/2020 (0915)	6/17/2020 (13:21)	52hrs	J/UJ/P (det)			
3	6/15/2020 (1000)	6/17/2020 (13:42)	52hrs	J/UJ/P (det)			

LDC #: 48681A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** 1-7

Analyte	Blank ID	Blank ID	Blank Action Limit									
	PB	ICB/CCB (ug/L)		5									
Cr6		0.033	0.000165	0.000056									

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 #: 48681A6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:**
Sampling date: 6/15/2020 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: Xflag

Analyte	Blank ID	Action Limit	Sample Identification							
	6		No Qualifiers							
pH(pH units)	4.45									
TDS	3.3									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 48681A6 **VALIDATION FINDINGS WORKSHEET** Page: 1 of 1
Field Duplicates Reviewer: DTM
2nd Reviewer:

Inorganics, Method See Cover

Analyte	Concentration (mg/L)		RPD
	4	7	
pH (pH units)	8.01	8.09	1
TDS	320	310	3
Chloride	9.9	9.8	1
Nitrate-N	0.057	0.074	26
Sulfate	32	32	0
Nitrite-N	0.010	0.011	10
Total Alkalinity	210	210	0
Bicarbonate Alkalinity	250	260	4

V:\Darionna\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2020\48681A6.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017454

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-6-061620	2017454-01	Water	06/16/20
MW-20-5	2017454-02	Water	06/16/20
MW-20-4	2017454-03	Water	06/16/20
MW-20-3	2017454-04	Water	06/16/20
MW-20-2**	2017454-05**	Water	06/16/20
EB-6-061620	2017454-06	Water	06/16/20
MW-24-4	2017454-07	Water	06/16/20
MW-24-3	2017454-08	Water	06/16/20
MW-20-2MS	2017454-05MS	Water	06/16/20
MW-20-2MSD	2017454-05MSD	Water	06/16/20

**Indicates sample underwent Level IV review

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 evaluation, 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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/08/20	Pentachloroethane	76.0	All samples in SDG 2017454	UJ (all non-detects)	P

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
06/19/20	Pentachloroethane	53.6	All samples in SDG 2017454	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-6-061620 was identified as a trip blank. No contaminants were found.

Sample EB-6-061620 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Compound	Concentration
EB-6-061620	Tetrahydrofuran	19 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 ICV %D and continuing calibration %D, data were qualified as estimated in eight samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2017454

Sample	Compound	Flag	A or P	Reason
TB-6-061620 MW-20-5 MW-20-4 MW-20-3 MW-20-2** EB-6-061620 MW-24-4 MW-24-3	Pentachloroethane	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-6-061620 MW-20-5 MW-20-4 MW-20-3 MW-20-2** EB-6-061620 MW-24-4 MW-24-3	Pentachloroethane	UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2017454

No Sample Data Qualified in this SDG

LDC #: 48681B1a

SDG #: 2017454

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 8/7/20

Page: 1 of 1

Reviewer:

2nd Reviewer: JW

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 / SW	RSD≤30% . r²
IV.	Continuing calibration	SW	CCV≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	FB=1. EB=6
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-6-061620	2017454-01	Water	06/16/20
2	MW-20-5	2017454-02	Water	06/16/20
3	MW-20-4	2017454-03	Water	06/16/20
4	MW-20-3	2017454-04	Water	06/16/20
5	MW-20-2**	2017454-05**	Water	06/16/20
6	EB-6-061620	2017454-06	Water	06/16/20
7	MW-24-4	2017454-07	Water	06/16/20
8	MW-24-3	2017454-08	Water	06/16/20
9	MW-20-2MS	2017454-05MS	Water	06/16/20
10	MW-20-2MSD	2017454-05MSD	Water	06/16/20
11				
12				
13				
14				

LDC #: 48681B1a

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: 9
2nd Reviewer: JVG

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 calibration				
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? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were 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				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for 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 for this SDG?	✓			

LDC #: 48681B19

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: JW

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) within 70-130%?	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were 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				
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 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.

LDC #: 48881B9

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: PG
2nd Reviewer: JVP

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?
Y N N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/8/20	18JUN28	ZZZZ	76.0	All (ND)	J/UJ/A

LDC #: 1868/B9

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: CT
2nd Reviewer: CW

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y (N) N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
	6/19/20	19JUN07	2222	53.6	All (ND)	J/UJ

CONCAL 1S5

LDC #: 48681B4

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: 9
2nd reviewer: Me

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

Compound	Concentration Units (ug/L)
PPPP	19

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 #: 48681B1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PG
2nd Reviewer: JV6

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 RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL (MS-V5)	6/1/20	K (1st internal standard)	0.6723501	0.67235	0.6584789	0.6584789	2.271494	2.272
			S (2nd internal standard)	0.3480862	0.3480861	0.3443647	0.3443647	4.923863	4.924
			EE (3rd internal standard)	1.866471	1.866471	1.794106	1.794106	5.729535	5.729
			(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.

LDC #: 48681B1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: PG
2nd Reviewer: JVG

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 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

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	19JUN02	6/22/2	K (1st internal standard)	0.6584789	0.7011749	0.7011749	6.5	6.5
			S (2nd internal standard)	0.3443647	0.3454481	0.345448	0.3	0.3
			EE (3rd internal standard)	1.794106	1.744786	1.744786	2.7	2.7
			(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.

LDC #: 48681B9

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: Q
2nd 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: 5

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
Toluene-d8	10.0	9.95	99.5	99.5	
Bromofluorobenzene	↓	10.06	101	101	
~~1,2-Dichlorobenzene-d4~~ 1,2-DCA	↓	10.54	105	105	
Dibromofluoromethane					

Sample ID:

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

Sample ID:

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

Sample ID:

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

LDC #: 48601E9

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: Q
2nd 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 = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD sample: 9/10

Compound	Spike Added (µL)		Sample Concentration (µg/L)	Spiked Sample Concentration (µL)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	ND	27.55	27.37	110	110	109	109	0.65	0.655
Trichloroethene	↓	↓	0.43	26.72	26.67	105	105	105	105	0.18	0.187
Benzene	↓	↓	ND	26.20	25.89	105	105	104	104	1.19	1.19
Toluene	↓	↓	↓	24.82	24.83	99.3	99.3	99.3	99.3	0.0403	0.0403
Chlorobenzene	↓	↓	↓	23.79	23.88	95.2	95.2	95.5	95.5	0.378	0.378

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 #: 48681B1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: 9
2nd Reviewer: SW

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy 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 = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: B080515-BS1

Compound	Spike Added (µg/L)		Spiked Sample Concentration (µg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	27.36	NA	109	109				
Trichloroethene	↓	↓	25.64	↓	103	103				
Benzene			25.71		103	103				
Toluene			24.67		98.7	98.7				
Chlorobenzene			23.78		95.1	95.1				

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.

LDC #: 48638B9

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

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. 5 , K :

Conc. = (10941)(10.0)(1) / (505178)(0.658789)( )
= 0.81 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration ( )	Qualification
	5	K	0.81		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Metals

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017454

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-20-5	2017454-02	Water	06/16/20
MW-20-4	2017454-03	Water	06/16/20
MW-20-3	2017454-04	Water	06/16/20
MW-20-2**	2017454-05**	Water	06/16/20
EB-6-061620	2017454-06	Water	06/16/20
MW-24-4	2017454-07	Water	06/16/20
MW-24-3	2017454-08	Water	06/16/20
MW-20-2MS	2017454-05MS	Water	06/16/20
MW-20-2MSD	2017454-05MSD	Water	06/16/20
MW-20-2DUP	2017454-05DUP	Water	06/16/20

**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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

ICP interference check sample analysis data were not required by the methods.

V. 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)	Potassium	0.10966 mg/L	MW-20-5 MW-20-4 MW-20-3 MW-20-2** EB-6-061620 MW-24-4
ICB/CCB	Magnesium	0.37422 mg/L	MW-24-3

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.

VI. Field Blanks

Sample EB-6-061620 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-6-061620	Calcium Sodium	0.048 mg/L 0.16 mg/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 methods. 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 methods. No results were rejected in this SDG.

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2017454

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2017454

No Sample Data Qualified in this SDG

LDC #: 48681B4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/6/2020
SDG #: 2017454 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=5
VII.	Matrix Spike/Matrix Spike Duplicates	A	
VIII.	Duplicate sample analysis	A	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
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-20-5	2017454-02	Water	06/16/20
2	MW-20-4	2017454-03	Water	06/16/20
3	MW-20-3	2017454-04	Water	06/16/20
4	MW-20-2**	2017454-05**	Water	06/16/20
5	EB-6-061620	2017454-06	Water	06/16/20
6	MW-24-4	2017454-07	Water	06/16/20
7	MW-24-3	2017454-08	Water	06/16/20
8	MW-20-2MS	2017454-05MS	Water	06/16/20
9	MW-20-2MSD	2017454-05MSD	Water	06/16/20
10	MW-20-2DUP	2017454-05DUP	Water	06/16/20
11				
12				
13				

Notes:

LDC #: 49008134a

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: DTM
2nd Reviewer:

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 ≤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%			✓	
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) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.	✓			
VII. Laboratory control samples	✓			
Was an LCS anaylzed 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 #: 486901B4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-7	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
QC 8-10	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

		Analysis Method
ICP	W	Al, Sb, As, Ba, Be, B, Cd, [✓ Ca], Cr, Co, Cu, [✓ Fe], Pb, Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
ICP-MS	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
GFAA		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Comments: Mercury by CVAA if performed

LDC #: 48681B4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: DTM
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010/6020/7000) Soil preparation factor applied:____
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1-6

					Sample Identification										
Analyte	**Maximum PB[a] (mg/L)**	**Maximum PB[a] (ug/L)**	**Maximum ICB/CCB[a] (mg/L)**	**Action Level**	**NO QUAL**										
K			0.10966	0.5483											

Associated Samples: 7

					Sample Identification										
Analyte	**Maximum PB[a] (mg/L)**	**Maximum PB[a] (ug/L)**	**Maximum ICB/CCB[a] (mg/L)**	**Action Level**	**NO QUAL**										
Mg			0.037422	0.18711											

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 #: 48681B4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:**
Sampling date: 6/16/2020
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: X flag

Analyte	Blank ID	Blank ID	Sample Identification										
	5		Action Limit	NO QUAL									
Ca	0.048												
Na	0.16												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 48691B49

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: DM
2nd Reviewer:

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:

$\%R = \frac{Found}{True} \times 100$ 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 %R	Reported %R	Acceptable (Y/N)
N	ICP (Low Level calibration)						
N	ICP/MS (Low Level calibration)						
ICV	ICP (Initial calibration)	Fe	20.104mg/L	20.000mg/L	101	101	Y
ICV	ICP/MS (Initial calibration)	Cr	50.286	50.000	~~100~~ 101	101	Y
N	CVAA (Initial calibration)						
CCV4	ICP (Continuing calibration)	Na	48.484	50.000	97	97	Y
CCV4	ICP/MS (Continuing calibration)	Pb	101.54	100.00	102	102	Y
N	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
6/19/2020 b	Mass Axis	24	24.0	± 0.1 AMU	NA	Y
	%RSD	115	0.3	≤ 5% RSD	0.3	Y

Comments:

LDC #: 49691B49

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: DM
2nd Reviewer:

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 = Found x 100 / True

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 = |S-D| x 100 / (S+D)/2

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

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

%D = |I-SDR| x 100 / I

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
IFB	ICP interference check	Mg	475.57 mg/L	500.00 mg/L	95.1	95.1	Y
LCS	Laboratory control sample	Pb	108.85 ug/L	100 ug/L	109	109	Y
8	Matrix spike	As	(SSR-SR) 110.78 ug/L	100 ug/L	111	111	Y
10	Duplicate	Ca	92.849 mg/L	90.791 mg/L	2.22	2.24	Y
N	ICP serial dilution						

Comments: _____

LDC #: 49609B4G

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: DTM
2nd reviewer:

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

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for Fe were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$ Recalculation:

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

#	Sample ID	Analyte	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Acceptable (Y/N)
	4	Fe	65	65	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017454

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-20-5	2017454-02	Water	06/16/20
MW-20-4	2017454-03	Water	06/16/20
MW-20-3	2017454-04	Water	06/16/20
MW-20-2**	2017454-05**	Water	06/16/20
EB-6-061620	2017454-06	Water	06/16/20
MW-24-4	2017454-07	Water	06/16/20
MW-24-3	2017454-08	Water	06/16/20
MW-20-2MS	2017454-05MS	Water	06/16/20
MW-20-2MSD	2017454-05MSD	Water	06/16/20
MW-20-2DUP	2017454-05DUP	Water	06/16/20

**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:

Alkalinity by Standard Method 3220B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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. 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	0.033 mg/L	MW-24-4 MW-24-3
PB (prep blank)	Chloride	0.176 mg/L	All samples in SDG 2017454
ICB/CCB	Chloride	0.200 mg/L	All samples in SDG 2017454
ICB/CCB	Nitrite as N	0.012977 mg/L	MW-20-5 MW-20-4 MW-20-3 MW-20-2** EB-6-061620

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-24-4	Hexavalent chromium Nitrite as N	0.000063 mg/L 0.035 mg/L	0.000063U mg/L 0.035U mg/L
MW-24-3	Hexavalent chromium	0.000041 mg/L	0.000041U mg/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
EB-6-061620	Chloride	0.20 mg/L	0.20U mg/L
MW-20-2**	Nitrite as N	0.012 mg/L	0.012U mg/L

V. Field Blanks

Sample EB-6-061620 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-6-061620	pH Total dissolved solids Hexavalent chromium Chloride Sulfate	4.47 units 3.3 mg/L 0.000037 mg/L 0.20 mg/L 0.24 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 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, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2017454

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2017454

Sample	Analyte	Modified Final Concentration	A or P
MW-24-4	Hexavalent chromium Nitrite as N	0.000063U mg/L 0.035U mg/L	A
MW-24-3	Hexavalent chromium	0.000041U mg/L	A
EB-6-061620	Chloride	0.20U mg/L	A
MW-20-2**	Nitrite as N	0.012U mg/L	A

LDC #: 48681B6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/6/2020
SDG #: 2017454 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DMV
2nd Reviewer: [signature]

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	SW	EB=5
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	A	
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-20-5	2017454-02	Water	06/16/20
2	MW-20-4	2017454-03	Water	06/16/20
3	MW-20-3	2017454-04	Water	06/16/20
4	MW-20-2**	2017454-05**	Water	06/16/20
5	EB-6-061620	2017454-06	Water	06/16/20
6	MW-24-4	2017454-07	Water	06/16/20
7	MW-24-3	2017454-08	Water	06/16/20
8	MW-20-2MS	2017454-05MS	Water	06/16/20
9	MW-20-2MSD	2017454-05MSD	Water	06/16/20
10	MW-20-2DUP	2017454-05DUP	Water	06/16/20
11				
12				
13				
14				

Notes:

LDC #: 48608136

VALIDATION FINDINGS CHECKLIST

Reviewer: DTM
2nd Reviewer: CT

Method: Inorganics (EPA Method)

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 anaylzed 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.	✓			

LDC #: 48681B6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1-7	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 8-9	pH TDS [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 Alk CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 10	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	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
	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:

LDC #: 48681B6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** 6-7

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (ug/L)		6	7								
Cr6		0.033	0.000165	0.000063	0.000041								

Associated Samples: 1-7

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (ug/L)		5									
Chloride	0.176	0.200	1.0	0.20									

Associated Samples: 1-5

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		4	6								
NO2-N		0.012977	0.064885	0.012	0.035								

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 #: 48681B6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:**
Sampling date: 6/16/2020 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: Xflag

Analyte	Blank ID	Action Limit	Sample Identification							
	5		No Qualifiers							
pH(pH units)	4.47									
TDS	3.3									
Hexavalent Chromium	0.000037									
Chloride	0.20									
Sulfate	0.24									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: _48681B6__

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer:_DTM_
2nd Reviewer:

Method: Inorganics, Method ___See Cover_____

The correlation coefficient (r) for the calibration of _Perchlorate___ was recalculated.Calibration date:__6/22/2020___

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

%R = Found X 100 / 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. (mg/L)	Abs	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Perchlorate	s1	2.03	0.0022	*0.9999944*	NR	Y
		s2	3.98	0.0044			
		s3	6.088	0.0067			
		s4	9.946	0.0109			
		s5	20.002	0.022			
ICV Calibration verification	Cr6	24.468	25		97.9	97.9	Y
ICV Calibration verification	NO3-N	4.872	5		97.4	97.4	Y
ICV Calibration verification	ClO4	10.046	10		100	100	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 #: 49669181B6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: DTM
2nd Reviewer:

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 = Found / True x 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 = |S-D| / (S+D)/2 x 100 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	TDS	595 mg/L	586 mg/L	102	102	Y
8	Matrix spike sample	SO_4	(SSR-SR) 106.52 mg/L	101.01 mg/L	105	105	Y
10	Duplicate sample	pH (pH units)	7.93	7.97	0.503	0.503	Y

Comments:

LDC #: 49869186

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Cr6, Cl reported with a positive detect were recalculated and verified using the following equation:

Concentration = Recalculation:

Cr6: $\frac{0.007 = 0.1196x + 0.0007}{1000} = 0.000053 \text{ mg/L}$

Cl: $25.87 = 0.4646x + -0.0633$, $x = 56 \text{ mg/L}$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	4	Cr6	0.000052	0.000053	Y
		Cl	53	56	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017715

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-8-061820	2017715-01	Water	06/18/20
MW-25-5	2017715-02	Water	06/18/20
MW-25-4	2017715-03	Water	06/18/20
MW-25-3	2017715-04	Water	06/18/20
MW-25-2**	2017715-05**	Water	06/18/20
MW-25-1	2017715-06	Water	06/18/20
EB-8-061820	2017715-07	Water	06/18/20
MW-12-5	2017715-08	Water	06/18/20
MW-12-4	2017715-09	Water	06/18/20
MW-25-2MS	2017715-05MS	Water	06/18/20
MW-25-2MSD	2017715-05MSD	Water	06/18/20

**Indicates sample underwent Level IV review

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 evaluation, 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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/08/20	Pentachloroethane	76.0	All samples in SDG 2017715	UJ (all non-detects)	P

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
06/22/20 (22JUN02)	Bromomethane	38.9	All samples in SDG 2017715	UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
06/22/20 (22JUN03)	Methyl iodide	89.9	All samples in SDG 2017715	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-8-061820 was identified as a trip blank. No contaminants were found.

Sample EB-8-061820 was identified as an equipment 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

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 ICV %D and continuing calibration %D, data were qualified as estimated in nine samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2017715

Sample	Compound	Flag	A or P	Reason
TB-8-061820 MW-25-5 MW-25-4 MW-25-3 MW-25-2** MW-25-1 EB-8-061820 MW-12-5 MW-12-4	Pentachloroethane	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-8-061820 MW-25-5 MW-25-4 MW-25-3 MW-25-2** MW-25-1 EB-8-061820 MW-12-5 MW-12-4	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2017715

No Sample Data Qualified in this SDG

LDC #: 48681C1a
SDG #: 2017715
Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level III/IV

Date: 8/1/20
Page: 1 of 1
Reviewer:
2nd Reviewer: SW

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/SW	RSD≤20% r^2 RRF≤30%
IV.	Continuing calibration	SW	CCV≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=7
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-8-061820	2017715-01	Water	06/18/20
2	MW-25-5	2017715-02	Water	06/18/20
3	MW-25-4	2017715-03	Water	06/18/20
4	MW-25-3	2017715-04	Water	06/18/20
5	MW-25-2**	2017715-05**	Water	06/18/20
6	MW-25-1	2017715-06	Water	06/18/20
7	EB-8-061820	2017715-07	Water	06/18/20
8	MW-12-5	2017715-08	Water	06/18/20
9	MW-12-4	2017715-09	Water	06/18/20
10	MW-25-2MS	2017715-05MS	Water	06/18/20
11	MW-25-2MSD	2017715-05MSD	Water	06/18/20
12				
13				
14				

LDC #: 48581c1a

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: A
2nd Reviewer: JVG

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 calibration				
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? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were 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				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for 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 for this SDG?	✓			

LDC #: 48681e19

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: 9
2nd Reviewer: SVG

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) within 70-130%?	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were 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				
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 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.

LDC #: 48684a9

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: PG
2nd Reviewer: JVG

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y (N) N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/8/20	18JUN28	ZZZZ	76.0	All (ND)	J/UJ/P

LDC #: 47668c19

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: 9
2nd Reviewer: MC

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
	6/22/20	22JUN02	B	38.9	All (ND)	J/UJ/P
		↓ 03	Methyl iodide	89.9		↓

LDC #: 48681C1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PG
2nd Reviewer: JV6

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 RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL (MS-V5)	6/1/20	K (1st internal standard)	0.6723501	0.67235	0.6584789	0.6584789	2.271494	2.272
			S (2nd internal standard)	0.3480862	0.3480861	0.3443647	0.3443647	4.923863	4.924
			EE (3rd internal standard)	1.866471	1.866471	1.794106	1.794106	5.729535	5.729
			(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.

LDC #: 48681C1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: PG
2nd Reviewer: JVG

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 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

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	22JUN02	6/22/2	K (1st internal standard)	0.6584789	0.7011524	0.7011523	6.5	6.5
			S (2nd internal standard)	0.3443647	0.3376512	0.3376511	1.9	1.9
			EE (3rd internal standard)	1.794106	1.617447	1.617447	9.8	9.8
			(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.

LDC #: ~~18684~~ 9

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: Q
2nd 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: 5

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
Toluene-d8	10.0	9.60	96.0	96.0	
Bromofluorobenzene	↓	10.17	102	102	
~~1,2-Dichlorobenzene-d4~~ 1,2-DCA	↓	11.36	114	114	
Dibromofluoromethane					

Sample ID:

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

Sample ID:

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

Sample ID:

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

LDC #: 4868C19

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: 9
2nd Reviewer: JM

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: 10/11

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	ND	29.2	29.48	117	117	118	118	0.715	0.715
Trichloroethene	↓	↓	0.510	27.98	27.59	110	110	108	108	1.40	1.40
Benzene	↓	↓	ND	27.32	26.94	109	109	108	108	~~1.82~~ 1.4	1.40
Toluene	↓	↓	↓	25.66	25.17	103	103	101	101	1.93	1.93
Chlorobenzene	↓	↓	↓	24.92	24.73	99.7	99.7	98.9	98.9	0.765	0.765

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 #: 48681C19

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: 9
2nd Reviewer: SVG

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy 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 = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: B080714-BS1

Compound	Spike Added (µg/L)		Spiked Sample Concentration (µg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	29.61	NA	118	118				
Trichloroethene	↓	↓	27.27	↓	109	109				
Benzene	↓	↓	27.24	↓	109	109				
Toluene	↓	↓	25.28	↓	101	101				
Chlorobenzene	↓	↓	24.57	↓	98.7	98.7				

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.

LDC #: 47668k19

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: SVG

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

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. 5, 5:

Conc. = (562T)(10.0)(1) / (318444)(0.3443647T)( )
= 0.51 µg/L

#	Sample ID	Compound	Reported Concentration (µg/L)	Calculated Concentration ( )	Qualification
	5	5	0.51		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Metals

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017715

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-25-5	2017715-02	Water	06/18/20
MW-25-4	2017715-03	Water	06/18/20
MW-25-3	2017715-04	Water	06/18/20
MW-25-2**	2017715-05**	Water	06/18/20
MW-25-1	2017715-06	Water	06/18/20
EB-8-061820	2017715-07	Water	06/18/20
MW-12-5	2017715-08	Water	06/18/20
MW-12-4	2017715-09	Water	06/18/20
MW-25-2MS	2017715-05MS	Water	06/18/20
MW-25-2MSD	2017715-05MSD	Water	06/18/20
MW-25-2DUP	2017715-05DUP	Water	06/18/20

**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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

ICP interference check sample analysis data were not required by the methods.

V. 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)	Calcium Magnesium Sodium	0.014790 mg/L 0.22945 mg/L 0.051150 mg/L	All samples in SDG 2017715
ICB/CCB	Magnesium Sodium	0.022692 mg/L 0.069891 mg/L	MW-25-5 MW-25-2**

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
EB-8-061820	Calcium Magnesium Sodium	0.045 mg/L 0.024 mg/L 0.15 mg/L	0.045U mg/L 0.024U mg/L 0.15U mg/L

VI. Field Blanks

Sample EB-8-061820 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-8-061820	Calcium Magnesium Sodium	0.045 mg/L 0.024 mg/L 0.15 mg/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 with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
MW-25-2MS/MSD (All samples in SDG 2017715)	Magnesium	-	74.5 (75-125)	J (all detects)	A

For MW-25-2MS/MSD, no data were qualified for calcium and sodium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

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 methods. 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 methods. No results were rejected in this SDG.

Due to MS/MSD %R, data were qualified as estimated in eight samples.

Due to laboratory blank contamination, data were qualified as not detected in one sample.

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2017715

Sample	Analyte	Flag	A or P	Reason
MW-25-5 MW-25-4 MW-25-3 MW-25-2** MW-25-1 EB-8-061820 MW-12-5 MW-12-4	Magnesium	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2017715

Sample	Analyte	Modified Final Concentration	A or P
EB-8-061820	Calcium Magnesium Sodium	0.045U mg/L 0.024U mg/L 0.15U mg/L	A

LDC #: 48681C4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/10/2020
SDG #: 2017715 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=6
VII.	Matrix Spike/Matrix Spike Duplicates	SW	
VIII.	Duplicate sample analysis	A	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
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-25-5	2017715-02	Water	06/18/20
2	MW-25-4	2017715-03	Water	06/18/20
3	MW-25-3	2017715-04	Water	06/18/20
4	MW-25-2**	2017715-05**	Water	06/18/20
5	MW-25-1	2017715-06	Water	06/18/20
6	EB-8-061820	2017715-07	Water	06/18/20
7	MW-12-5	2017715-08	Water	06/18/20
8	MW-12-4	2017715-09	Water	06/18/20
9	MW-25-2MS	2017715-05MS	Water	06/18/20
10	MW-25-2MSD	2017715-05MSD	Water	06/18/20
11	MW-25-2DUP	2017715-05DUP	Water	06/18/20
12				
13				

Notes:

LDC #: 48608IC4a

VALIDATION FINDINGS CHECKLIST

Reviewer: DTM
2nd Reviewer: [illegible]

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 ≤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%			✓	
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) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.	✓			
VII. Laboratory control samples				
Was an LCS anaylzed 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 #: 486921C4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-8	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
QC 9-11	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Analysis Method		
ICP	W	Al, Sb, ~~As~~ DM, Ba, Be, B, Cd, Ca, ~~Cr~~ DM, Co, Cu, [✓ Fe], Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
ICP-MS	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
GFAA		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Comments: Mercury by CVAA if performed

LDC #: 48681C4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010/6020/7000) Soil preparation factor applied:____
Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1-8

					Sample Identification										
Analyte	**Maximum PB[a] (mg/L)**	**Maximum PB[a] (ug/L)**	**Maximum ICB/CCB[a] (mg/L)**	**Action Level**	**6**										
Ca	0.014790			0.07395	0.045										
Mg	0.022945			0.1147	0.024										
Na	0.051150			0.2557	0.15										

Associated Samples: 1,4

					Sample Identification										
Analyte	**Maximum PB[a] (mg/L)**	**Maximum PB[a] (ug/L)**	**Maximum ICB/CCB[a] (mg/L)**	**Action Level**	**NO QUAL**										
Mg			0.022692	0.11346											
Na			0.069891	0.34945											

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 #: 48681C4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer: [signature]

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:**
Sampling date: 6/18/2020
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: X flag

Analyte	Blank ID	Blank ID	Sample Identification											
	6		Action Limit	NO QUAL										
Ca	0.045													
Mg	0.024													
Na	0.15													

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 48681C4a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: DTM
2nd Reviewer: [signature]

METHOD: Trace metals (EPA SW 846 Method 6020/6010/7470)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

(Y) N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	9/10	W	Mg		74.5		1-8	J/UJ/A (det)

Comments: 9/10Ca,Na > 4x Spike

LDC #: 49268B1C4q

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: DJM
2nd Reviewer: [illegible]

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 = Found / True x 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 %R	Reported %R	Acceptable (Y/N)
N	ICP (Low Level calibration)						
N	ICP/MS (Low Level calibration)						
ICV	~~ICP~~ ICP/MS (Initial calibration)	Pb	126.95	125	102	102	Y
ICV	~~ICP/MS~~ ICP (Initial calibration)	Na	50.021 mg/L	50.000 mg/L	100	100	Y
N	CVAA (Initial calibration)						
CCV3	ICP (Continuing calibration)	Fe	10.299 mg/L	10.000	103	103	Y
CCV6	ICP/MS (Continuing calibration)	Cr	40.764	40.000	102	102	Y
N	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
6/24/2020	Mass Axis	115	114.9	± 0.1 AMU	NA	Y
↓	%RSD	24	0.90	≤ 5% RSD	0.90	Y

Comments:

LDC #: 48608IC4a

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: DM
2nd Reviewer: CL

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:

$\%R = \frac{Found}{True} \times 100$ 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	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
IFB	ICP interference check	Ca	521.40 mg/L	500 mg/L	104	104	Y
LCS	Laboratory control sample	Fe	1042.1 ug/L	1000.0 ug/L	104	104	Y
9	Matrix spike	Pb	(SSR-SR) 90.036 ug/L	100.00 ug/L	90.0	90.0	Y
11	Duplicate	Cr	2.7860 ug/L	3.1540 ug/L	12.2	12.4	Y
N	ICP serial dilution						

Comments: _____

LDC #: 48169\C4a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: DTM
2nd reviewer:

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

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for Cr were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$ Recalculation:

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

#	Sample ID	Analyte	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Acceptable (Y/N)
	4	Cr	3.2	3.2	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017715

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-25-5	2017715-02	Water	06/18/20
MW-25-4	2017715-03	Water	06/18/20
MW-25-3	2017715-04	Water	06/18/20
MW-25-2**	2017715-05**	Water	06/18/20
MW-25-1	2017715-06	Water	06/18/20
EB-8-061820	2017715-07	Water	06/18/20
MW-12-5	2017715-08	Water	06/18/20
MW-12-4	2017715-09	Water	06/18/20
MW-25-2MS	2017715-05MS	Water	06/18/20
MW-25-2MSD	2017715-05MSD	Water	06/18/20
MW-25-2DUP	2017715-05DUP	Water	06/18/20

**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:

Alkalinity by Standard Method 3220B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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-25-5 MW-25-4 MW-25-3 MW-25-2** MW-25-1 EB-8-061820 MW-12-5 MW-12-4	pH	5 days	48 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 Chloride Nitrite as N	0.000032 mg/L 0.190 mg/L 0.012654 mg/L	All samples in SDG 2017715
ICB/CCB	Hexavalent chromium Chloride	0.04 mg/L 0.226 mg/L	All samples in SDG 2017715
ICB/CCB	Nitrite as N	0.017832 mg/L	MW-25-2**
ICB/CCB	Nitrite as N	0.015800 mg/L	MW-25-5 MW-25-4 MW-25-3 MW-25-1 EB-8-061820 MW-12-5 MW-12-4

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-25-1	Hexavalent chromium Nitrite as N	0.000036 mg/L 0.012 mg/L	0.000036U mg/L 0.012U mg/L
EB-8-061820	Hexavalent chromium Chloride Nitrite as N	0.000060 mg/L 0.19 mg/L 0.013 mg/L	0.000060U mg/L 0.19U mg/L 0.013U mg/L
MW-25-2**	Nitrite as N	0.015 mg/L	0.015U mg/L
MW-25-5	Nitrite as N	0.016 mg/L	0.016U mg/L
MW-25-4	Nitrite as N	0.014 mg/L	0.014U mg/L
MW-25-3	Nitrite as N	0.013 mg/L	0.013U mg/L
MW-12-5	Nitrite as N	0.015 mg/L	0.015U mg/L
MW-12-4	Nitrite as N	0.015 mg/L	0.015U mg/L

V. Field Blanks

Sample EB-8-061820 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-8-061820	pH Total dissolved solids Hexavalent chromium Chloride Nitrite as N	4.51 units 5.3 mg/L 0.000060 mg/L 0.19 mg/L 0.013 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 eight 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, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2017715

Sample	Analyte	Flag	A or P	Reason
MW-25-5 MW-25-4 MW-25-3 MW-25-2** MW-25-1 EB-8-061820 MW-12-5 MW-12-4	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2017715

Sample	Analyte	Modified Final Concentration	A or P
MW-25-1	Hexavalent chromium Nitrite as N	0.000036U mg/L 0.012U mg/L	A
EB-8-061820	Hexavalent chromium Chloride Nitrite as N	0.000060U mg/L 0.19U mg/L 0.013U mg/L	A
MW-25-2**	Nitrite as N	0.015U mg/L	A
MW-25-5	Nitrite as N	0.016U mg/L	A
MW-25-4	Nitrite as N	0.014U mg/L	A
MW-25-3	Nitrite as N	0.013U mg/L	A
MW-12-5	Nitrite as N	0.015U mg/L	A
MW-12-4	Nitrite as N	0.015U mg/L	A

LDC #: 48681C6 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/16/2020
SDG #: 2017715 Level III/IV Page: 1 of 2
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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=6
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	A	
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-25-5	2017715-02	Water	06/18/20
2	MW-25-4	2017715-03	Water	06/18/20
3	MW-25-3	2017715-04	Water	06/18/20
4	MW-25-2**	2017715-05**	Water	06/18/20
5	MW-25-1	2017715-06	Water	06/18/20
6	EB-8-061820	2017715-07	Water	06/18/20
7	MW-12-5	2017715-08	Water	06/18/20
8	MW-12-4	2017715-09	Water	06/18/20
9	MW-25-2MS	2017715-05MS	Water	06/18/20
10	MW-25-2MSD	2017715-05MSD	Water	06/18/20
11	MW-25-2DUP	2017715-05DUP	Water	06/18/20
12				
13				
14				

Notes:

LDC #: 48608101C4

VALIDATION FINDINGS CHECKLIST

Reviewer: BTM
2nd Reviewer: [signature]

Method: Inorganics (EPA Method)

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 anaylzed 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.	✓			

LDC #: 49608106

VALIDATION FINDINGS WORKSHEET

Sample Specific Analysis Reference

Page: 1 of 1

Reviewer: DTM

2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1-8	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 9-10	pH TDS [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 Alk CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 11-12	[✓ pH] TDS [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	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
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 48681C6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: DTM
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	EPA 150.1				
Parameters:	pH				
Technical holding time:	48hrs				

Sample ID	Sampling date	Analysis date	Total Time	Qualifier	Analysis date	Total Time	Qualifier
1-8	6/18/2020	6/23/2020	5days	J/R/P (det)			

LDC #: 48681C6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** 1-8

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (ug/L)		5	6								
Cr6	0.000032	0.04	0.0002	0.000036	0.000060								
Chloride	0.190	0.226	1.13		0.19								
NO2-N	0.012654		0.06327										

Associated Samples: 4

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		4									
NO2-N		0.017832	0.08916	0.015									

Associated Samples: 1-5,6-8

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		1	2	3	5	6	7	8			
NO2-N		0.015800	0.079	0.016	0.014	0.013	0.012	0.013	0.015	0.015			

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 #: 48681C6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:**
Sampling date: 6/18/2020 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: Xflag

Analyte	Blank ID	Action Limit	Sample Identification							
	6		No Qualifiers							
pH(pH units)	4.51									
TDS	5.3									
Hexavalent Chromium	0.000060									
Chloride	0.19									
Nitrite-N	0.013									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: _48681B6__

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page:_1__ of _1__
Reviewer:_DTM_
2nd Reviewer:

Method: Inorganics, Method ___See Cover _____

The correlation coefficient (r) for the calibration of _Perchlorate___ was recalculated.Calibration date:__6/29/2020___

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

%R = Found X 100 / 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. (mg/L)	Abs	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Perchlorate	s1	2.017	0.0023	*0.9999960*	NR	Y
		s2	3.827	0.0043			
		s3	6.631	0.0075			
		s4	10.154	0.0114			
		s5	19.767	0.0222			
CCV1 Calibration verification	Cr6	24.529	25		98.1	98.1	Y
CCV2 Calibration verification	SO4	96.788	100		96.8	96.8	Y
CCV2 Calibration verification	ClO4	9.3141	10		93.1	93.1	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 #: 48681C4

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: DTM
2nd Reviewer: [signature]

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 = Found / True x 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 = |S-D| / (S+D)/2 x 100 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
ICS	Laboratory control sample	pH	6.98 pH	7.00 pH	99.7	99.7	Y
9	Matrix spike sample	Cl	(SSR-SR) 55.408 mg/L	50.503 mg/L	110	110	Y
11	Duplicate sample	Cr6	0.002773 mg/L	0.002767 mg/L	0.217	0.217	Y

Comments: _____

LDC #: 48609I CC

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments?
(Y) N N/A Are all detection limits below the CRQL?

Compound (analyte) results for 804 reported with a positive detect were recalculated and verified using the following equation:

Concentration = (804) Recalculation: 26.864 = 0.3210x + -0.1134

= 84 mg/L

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	4	804	80	84	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017828

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-9-061920	2017828-01	Water	06/19/20
MW-23-5	2017828-02	Water	06/19/20
MW-23-4	2017828-03	Water	06/19/20
MW-23-3	2017828-04	Water	06/19/20
MW-23-2**	2017828-05**	Water	06/19/20
MW-23-1	2017828-06	Water	06/19/20
Dup-3-2Q2020	2017828-07	Water	06/19/20
EB-9-061920	2017828-08	Water	06/19/20
MW-12-3	2017828-09	Water	06/19/20
Dup-4-2Q2020	2017828-10	Water	06/19/20
MW-12-2	2017828-11	Water	06/19/20
MW-12-1	2017828-12	Water	06/19/20
SB-2-061920	2017828-13	Water	06/19/20
MW-23-2MS	2017828-05MS	Water	06/19/20
MW-23-2MSD	2017828-05MSD	Water	06/19/20

**Indicates sample underwent Level IV review

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 evaluation, 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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/08/20	Pentachloroethane	76.0	All samples in SDG 2017828	UJ (all non-detects)	P

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
06/22/20 (22JUN02)	Bromomethane	38.9	TB-9-061920 MW-23-5 MW-23-4 MW-23-3 MW-23-1 Dup-3-2Q2020	UJ (all non-detects)	P
06/22/20 (22JUN03)	Methyl iodide	89.9	TB-9-061920 MW-23-5 MW-23-4 MW-23-3 MW-23-1 Dup-3-2Q2020	UJ (all non-detects)	P
06/22/20 (22JUN31)	Bromomethane	60.7	MW-23-2** EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2 MW-12-1 SB-2-061920	UJ (all non-detects)	P
06/22/20 (22JUN32)	Methyl iodide Pentachloroethane	79.3 96.4	MW-23-2** EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2 MW-12-1 SB-2-061920	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-8-061820 was identified as a trip blank. No contaminants were found.

Sample EB-8-061820 was identified as an equipment 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-23-1 and Dup-3-2Q2020 and samples MW-12-3 and Dup-4-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-12-3	Dup-4-2Q2020	
Carbon tetrachloride	1.4	1.2	15
Chloroform	0.86	07	21

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 ICV %D and continuing calibration %D, data were qualified as estimated in thirteen samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2017828

Sample	Compound	Flag	A or P	Reason
TB-9-061920 MW-23-5 MW-23-4 MW-23-3 MW-23-2** MW-23-1 Dup-3-2Q2020 EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2 MW-12-1 SB-2-061920	Pentachloroethane	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-9-061920 MW-23-5 MW-23-4 MW-23-3 MW-23-1 Dup-3-2Q2020	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)
MW-23-2** EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2 MW-12-1 SB-2-061920	Bromomethane Methyl iodide Pentachloroethane	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2017828

No Sample Data Qualified in this SDG

LDC #: 48681D1a
SDG #: 2017828
Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level III/IV

Date: 8/20
Page: 1 of 2
Reviewer: 9
2nd Reviewer: DM

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/SW	RSD≤20%. r² ICV≤30%
IV.	Continuing calibration	SW	CCV≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=8. SB=13
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D=6+T. 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; 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 1	TB-9-061920	2017828-01	Water	06/19/20
2 1	MW-23-5	2017828-02	Water	06/19/20
3 1	MW-23-4	2017828-03	Water	06/19/20
4 1	MW-23-3	2017828-04	Water	06/19/20
5 2	MW-23-2**	2017828-05**	Water	06/19/20
6 1	MW-23-1	2017828-06	Water	06/19/20
7 1	Dup-3-2Q2020	2017828-07	Water	06/19/20
8 2	EB-9-061920	2017828-08	Water	06/19/20
9 2	MW-12-3	2017828-09	Water	06/19/20
10 2	Dup-4-2Q2020	2017828-10	Water	06/19/20
11 2	MW-12-2	2017828-11	Water	06/19/20
12 2	MW-12-1	2017828-12	Water	06/19/20
13 2	SB-2-061920	2017828-13	Water	06/19/20
14 2	MW-23-2MS	2017828-05MS	Water	06/19/20

LDC #: 48681D1a

SDG #: 2017828

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 8/20

Page: 2 of 2

Reviewer: 9

2nd Reviewer: DW

METHOD: GC/MS Volatiles (EPA Method 524.2)

	Client ID	Lab ID	Matrix	Date
15	MW-23-2MSD	2017828-05MSD	Water	06/19/20
16				
17				
18				

Notes:

LDC #: 48681D19

VALIDATION FINDINGS CHECKLIST

Reviewer: CT
2nd Reviewer: DM

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 calibration				
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? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were 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				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for 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 for this SDG?	✓			

LDC #: 48603181 9

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: SVG

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) within 70-130%?	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were 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				
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 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.

LDC #: 48681D1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Page: 1 of 1
Reviewer: PG
2nd Reviewer: MG

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?
Y N N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/8/20	18JUN28	ZZZZ	76.0	All (ND)	

LDC #: 48681D19

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: Q
2nd Reviewer: SM

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
	6/22/20	22IUNO2	B	38.9	1-4.6-T.MB	J/UJ/P
		↓ 3	Methyl Iodide	89.9	(ND)	↓
	6/22/20	22IUN31	B	60.T	5.8-15.MB	J/UJ/P
		↓ 32	Methyl Iodide	79.3	(ND)	
			2222	96.4		↓

CONCAL 1S5

LDC#: 48681D1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: CV
2nd Reviewer: JVG

METHOD: GCMS VOA (EPA Method 524.2)

Compound	Concentration (ug/L)		RPD
	9	10	
O	1.4	1.2	15
K	0.86	0.7	21

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2020\48681D1_JPL.wpd

LDC #: 48681D1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PG
2nd Reviewer: JVG

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 RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL (MS-V5)	6/1/20	K (1st internal standard)	0.6723501	0.67235	0.6584789	0.6584789	2.271494	2.272
			S (2nd internal standard)	0.3480862	0.3480861	0.3443647	0.3443647	4.923863	4.924
			EE (3rd internal standard)	1.866471	1.866471	1.794106	1.794106	5.729535	5.729
			(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.

LDC #: 48681D1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: PG
2nd Reviewer: SVG

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 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

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	22JUN31	6/22/2	K (1st internal standard)	0.6584789	0.7246099	0.7246098	10.0	10.0
			S (2nd internal standard)	0.3443647	0.3588796	0.3588795	4.2	4.2
			EE (3rd internal standard)	1.794106	1.648244	1.648244	8.1	8.1
			(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.

LDC #: 18683/D/a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: MG

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: 5

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
Toluene-d8	10.0	9.64	96.4	96.4	
Bromofluorobenzene	↓	10.09	101	101	
~~1,2-Dichlorobenzene-d4~~ 1,2-DCA	↓	11.51	115	115	
Dibromofluoromethane					

Sample ID:

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

Sample ID:

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

Sample ID:

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

LDC #: 48681D19

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: C
2nd Reviewer: SVL

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: 14/15

Compound	Spike Added (µg/L)		Sample Concentration (µg/L)	Spiked Sample Concentration (µg/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	ND	30.810	30.870	123	123	123	123	0.0649	0.0649
Trichloroethene	↓	↓	1.03	28.690	28.990	111	111	112	112	1.04	1.04
Benzene	↓	↓	ND	28.880	28.550	116	116	114	114	1.15	1.15
Toluene	↓	↓	↓	25.850	26.080	103	103	104	104	0.886	0.886
Chlorobenzene	↓	↓	↓	25.030	25.070	100	100	100	100	0.160	0.160

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 #: 48681b1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: Q
2nd Reviewer: SVO

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy 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 = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: B080718-BS1

Compound	Spike Added (ug/L)		Spiked Sample Concentration ug/L		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	29.520	NA	118	118				
Trichloroethene	↓	↓	29.770	↓	119	119				
Benzene			27.710		111	111				
Toluene			25.820		103	103				
Chlorobenzene	↓	↓	25.100	↓	101	101				

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.

LDC #: 43681D4

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: JVG

METHOD: GC/MS VOA (EPA Method 524.2)

(Y) N N/A Were all reported results recalculated and verified for all level IV samples?

(Y) N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

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. 5 , K :

Conc. = $\frac{(6594)(10.0)(1)}{(22739)(0.6584789)(\ )}$

= 0.44 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration ( )	Qualification
	5	K	0.44		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Metals

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017828

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-23-5	2017828-02	Water	06/19/20
MW-23-4	2017828-03	Water	06/19/20
MW-23-3	2017828-04	Water	06/19/20
MW-23-2**	2017828-05**	Water	06/19/20
MW-23-1	2017828-06	Water	06/19/20
Dup-3-2Q2020	2017828-07	Water	06/19/20
EB-9-061920	2017828-08	Water	06/19/20
MW-12-3	2017828-09	Water	06/19/20
Dup-4-2Q2020	2017828-10	Water	06/19/20
MW-12-2	2017828-11	Water	06/19/20
MW-12-1	2017828-12	Water	06/19/20
SB-2-061920	2017828-13	Water	06/19/20
MW-23-2MS	2017828-05MS	Water	06/19/20
MW-23-2MSD	2017828-05MSD	Water	06/19/20
MW-23-2DUP	2017828-05DUP	Water	06/19/20

**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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

ICP interference check sample analysis data were not required by the methods.

V. 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	Arsenic	0.77300 mg/L	Dup-3-2Q2020 MW-12-3 Dup-4-2Q2020 MW-12-1
ICB/CCB	Chromium	0.62100 mg/L	MW-23-4 MW-23-3 MW-23-1 Dup-3-2Q2020 EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2 MW-12-1 SB-2-061920
PB (prep blank)	Calcium Magnesium Sodium	0.014790 mg/L 0.022945 mg/L 0.051150 mg/L	MW-23-5 MW-23-4

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Magnesium	0.024463 mg/L	MW-23-3 MW-23-2** MW-23-1 Dup-3-2Q2020 EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2 MW-12-1 SB-2-061920

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
Dup-3-2Q2020	Arsenic	1.0 ug/L	1.0U ug/L
MW-12-3	Arsenic Chromium	1.7 ug/L 1.0 ug/L	1.7U ug/L 1.0U ug/L
Dup-4-2Q2020	Arsenic Chromium	1.9 ug/L 1.4 ug/L	1.9U ug/L 1.4U ug/L
MW-12-1	Arsenic Chromium	0.79 ug/L 1.6 ug/L	0.79U ug/L 1.6U ug/L
MW-23-1	Chromium	1.4 ug/L	1.4U ug/L
EB-9-061920	Chromium Magnesium	0.60 ug/L 0.026 mg/L	0.60U ug/L 0.026U mg/L
MW-12-2	Chromium	1.7 ug/L	1.7U ug/L
SB-2-061920	Magnesium	0.025 mg/L	0.025U mg/L

VI. Field Blanks

Sample EB-9-061920 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-9-061920	Chromium Calcium Magnesium Sodium	0.60 ug/L 0.056 mg/L 0.026 mg/L 0.24 mg/L

Sample SB-2-061920 was identified as a source blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
SB-2-061920	Calcium Magnesium Sodium	0.48 mg/L 0.025 mg/L 0.17 mg/L

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. For MW-23-2MS/MSD, no data were qualified for calcium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration. 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 methods. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-23-3 and Dup-3-2Q2020 and samples MW-12-3 and Dup-4-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-23-3	Dup-3-2Q2020	
Iron	120	130	8
Chromium	3.2	3.5	9
Arsenic	0.70U	3.5	Not calculable
Calcium	57 mg/L	54 mg/L	5
Magnesium	19 mg/L	17 mg/L	11
Sodium	34 mg/L	31 mg/L	9
Potassium	2.0 mg/L	1.9 mg/L	5

Analyte	Concentration		RPD
	MW-12-3	Dup-4-2Q2020	
Iron	30U ug/L	35 ug/L	Not calculable
Chromium	1.7 ug/L	1.9 ug/L	11
Arsenic	1.0 ug/L	1.4 ug/L	33
Calcium	60 mg/L	58 mg/L	3
Magnesium	15 mg/L	15 mg/L	0
Sodium	26 mg/L	26 mg/L	0
Potassium	2.6 mg/L	2.7 mg/L	4

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 methods. No results were rejected in this SDG.

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, 2Q2020
Metals - Data Qualification Summary - SDG 2017828

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2017828

Sample	Analyte	Modified Final Concentration	A or P
Dup-3-2Q2020	Arsenic	1.0U ug/L	A
MW-12-3	Arsenic Chromium	1.7U ug/L 1.0U ug/L	A
Dup-4-2Q2020	Arsenic Chromium	1.9U ug/L 1.4U ug/L	A
MW-12-1	Arsenic Chromium	0.79U ug/L 1.6U ug/L	A
MW-23-1	Chromium	1.4U ug/L	A
EB-9-061920	Chromium Magnesium	0.60U ug/L 0.026U mg/L	A
MW-12-2	Chromium	1.7U ug/L	A
SB-2-061920	Magnesium	0.025U mg/L	A

LDC #: 48681D4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/6/2020
SDG #: 2017828 Level III/IV Page: 1 of 2
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=7 SB=12
VII.	Matrix Spike/Matrix Spike Duplicates	SW	13,14 Ca > 4x Spike
VIII.	Duplicate sample analysis	A	
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(3,6) (8,9)
XII.	Internal Standard (ICP-MS)	A	
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-23-5	2017828-02	Water	06/19/20
2	MW-23-4	2017828-03	Water	06/19/20
3	MW-23-3	2017828-04	Water	06/19/20
4	MW-23-2**	2017828-05**	Water	06/19/20
5	MW-23-1	2017828-06	Water	06/19/20
6	Dup-3-2Q2020	2017828-07	Water	06/19/20
7	EB-9-061920	2017828-08	Water	06/19/20
8	MW-12-3	2017828-09	Water	06/19/20
9	Dup-4-2Q2020	2017828-10	Water	06/19/20
10	MW-12-2	2017828-11	Water	06/19/20
11	MW-12-1	2017828-12	Water	06/19/20
12	SB-2-061920	2017828-13	Water	06/19/20
13	MW-23-2MS	2017828-05MS	Water	06/19/20
14	MW-23-2MSD	2017828-05MSD	Water	06/19/20
15	MW-23-2DUP	2017828-05DUP	Water	06/19/20

LDC #: 48681D4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/6/2020
SDG #: 2017828 Level III/IV Page: 2 of 2
Laboratory: BC Laboratories, Inc. Reviewer: DM
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

	Client ID	Lab ID	Matrix	Date
16	12 DUP	2017828-13DUP	Water	6/19/20
17	12MS	MS	↓	↓
18	12MSD	MSD	↓	↓

Notes:

LDC #: 49608104q

VALIDATION FINDINGS CHECKLIST

Reviewer: DTM
2nd Reviewer: [illegible]

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 ≤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%			✓	
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.	✓	X DM		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.	✓			
VII. Laboratory control samples				
Was an LCS anaylzed 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 #: 49691D4a

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer: Q

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-12	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
QC13-15	W	Al, Sb, [✓ As], Ba, Be, B, Cd, [✓ Ca], [✓ Cr], Co, Cu, [✓ Fe], [✓ Pb], Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
QC16-18	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Analysis Method

ICP	W	Al, Sb, As, Ba, Be, B, Cd, [✓ Ca], Cr, Co, Cu, [✓ Fe], Pb, Li, [✓ Mg], Mo, Mn, Hg, Ni, [✓ K], Se, Ag, [✓ Na], Sr, Tl, Sn, Ti, W, U, V, Zn
ICP-MS	W	Al, Sb, [✓ As], Ba, Be, B, Cd, Ca, [✓ Cr], Co, Cu, Fe, [✓ Pb], Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn
GFAA		Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, K, Se, Ag, Na, Sr, Tl, Sn, Ti, W, U, V, Zn

Comments: Mercury by CVAA if performed

LDC #: 48681D4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010/6020/7000) Soil preparation factor applied:____

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 3-11

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**6**	8	9	11							
As			0.77300	3.865	1.0	1.7	1.9	0.79							

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 2-3,5-12

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**5**	7	8	9	10	11					
Cr			0.62100	3.105	1.4	0.60	1.0	1.4	1.7	1.6					

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 1-2

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**NO QUAL**										
Ca	0.014790			0.07395											
Mg	0.022945			0.11473											
Na	0.051150			0.25575											

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: 3-12

					Sample Identification										
Analyte	**Maximum PB[a] (mg/l)**	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (mg/l)**	**Action Level**	**7**	12									
Mg			0.024463	0.12232	0.026	0.025									

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 #: 48681D4a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:**
Sampling date: 6/19/2020
Field blank type: (circle one) Field Blank / Rinsate / Other: EB/SB Associated Samples: X flag

Analyte	Blank ID	Blank ID	Sample Identification										
	7	12	Action Limit	NO QUAL									
Cr(ug/L)	0.60												
Ca	0.056	0.048											
Mg	0.026	0.025											
Na	0.24	0.17											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 48681D4a

VALIDATION FINDINGS WORKSHEET

Field Duplicates

Reviewer: DTM
2nd Reviewer:

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

Analyte	Concentration (ug/L)		RPD
	3	6	
Iron	120	130	8
Chromium	3.2	3.5	9
Arsenic	0.70U	3.5	NC
Calcium (mg/L)	57	54	5
Magnesium (mg/L)	19	17	11
Sodium (mg/L)	34	31	9
Potassium (mg/L)	2.0	1.9	5

Analyte	Concentration (ug/L)		RPD
	8	9	
Iron	30U	35	NC
Arsenic	1.7	1.9	11
Chromium	1.0	1.4	33
Calcium (mg/L)	60	58	3
Magnesium (mg/L)	15	15	0
Sodium (mg/L)	26	26	0
Potassium (mg/L)	2.6	2.7	4

LDC #: 48608104a

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: DM
2nd Reviewer:

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 = Found / True x 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 %R	Reported %R	Acceptable (Y/N)
N	ICP (Low Level calibration)						
N	ICP/MS (Low Level calibration)						
ICV	ICP (Initial calibration)	Fe	10.380 mg/L	10.000 mg/L	104	104	Y
ICV	ICP/MS (Initial calibration) 6/24	Cr	49.791	50.000	99.6	99.6	Y
N	CVAA (Initial calibration)						
CCV3	ICP (Continuing calibration)	Mg	50.106 mg/L	50.000 mg/L	100	100	Y
CCV1	ICP/MS (Continuing calibration)	Pb	100.77	100.00	101	101	Y
N	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
6/25/2020	Mass Axis	115	114.9	± 0.1 AMU	NA	Y
↓	%RSD	24	1.9	≤ 5% RSD	1.9	Y

Comments:

LDC #: 49969D1D49

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: DTM
2nd Reviewer:

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:

$\%R = \frac{Found}{True} \times 100$ 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	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
IFB	ICP interference check	Mg	518.80 mg/L	500.00 mg/L	104	104	Y
LCS	Laboratory control sample	Pb	97.402 ug/L	100.00 ug/L	97.4	97.4	Y
~~15~~ DTM 17	Matrix spike	As	(SSR-SR) 109.02 ug/L	100.00 ug/L	109	109	Y
15	Duplicate	Fe	92.284 ug/L	95.019 ug/L	2.90	2.92	Y
N	ICP serial dilution						

Comments: _____

LDC #: 49869104a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: DTM
2nd reviewer:

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

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for Cr were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$ Recalculation:

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

#	Sample ID	Analyte	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Acceptable (Y/N)
	4	Cr	1.2	1.2	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 10, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017828

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-23-5	2017828-02	Water	06/19/20
MW-23-4	2017828-03	Water	06/19/20
MW-23-3	2017828-04	Water	06/19/20
MW-23-2**	2017828-05**	Water	06/19/20
MW-23-1	2017828-06	Water	06/19/20
Dup-3-2Q2020	2017828-07	Water	06/19/20
EB-9-061920	2017828-08	Water	06/19/20
MW-12-3	2017828-09	Water	06/19/20
Dup-4-2Q2020	2017828-10	Water	06/19/20
MW-12-2	2017828-11	Water	06/19/20
MW-12-1	2017828-12	Water	06/19/20
SB-2-061920	2017828-13	Water	06/19/20
MW-23-2MS	2017828-05MS	Water	06/19/20
MW-23-2MSD	2017828-05MSD	Water	06/19/20
MW-23-2DUP	2017828-05DUP	Water	06/19/20

**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:

Alkalinity by Standard Method 3220B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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-23-5 MW-23-4 MW-23-3 MW-23-2** MW-23-1 Dup-3-2Q2020 EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2 MW-12-1 SB-2-061920	pH	4 days	48 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)	Chloride	0.14200 mg/L	MW-23-5 MW-23-4 MW-23-3 MW-23-2** MW-23-1 Dup-3-2Q2020 EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Hexavalent chromium	0.048000 ug/L	MW-23-5 MW-23-4 MW-23-3 MW-23-2** MW-23-1 Dup-3-2Q2020 EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2
ICB/CCB	Hexavalent chromium Chloride	0.048000 mg/L 0.1400 mg/L	MW-23-5 MW-23-4 MW-23-3 MW-23-2** MW-23-1 Dup-3-2Q2020 EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2
PB (prep blank)	Chloride Sulfate	0.20200 mg/L 0.25600 mg/L	MW-12-1 SB-2-061920
ICB/CCB	Hexavalent chromium	0.048000 ug/L	MW-12-1 SB-2-061920
ICB/CCB	Chloride Sulfate	0.219 mg/L 0.30600 mg/L	MW-12-1 SB-2-061920

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	0.000039 mg/L	0.000039U mg/L
EB-9-061920	Hexavalent chromium	0.000032 mg/L	0.000032U mg/L
MW-12-2	Hexavalent chromium	0.000083 mg/L	0.000083U mg/L
SB-2-061920	Hexavalent chromium Chloride Sulfate	0.000056 mg/L 0.19 mg/L 0.26 mg/L	0.000056U mg/L 0.19U mg/L 0.26U mg/L

V. Field Blanks

Sample EB-9-061920 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-9-061920	pH Total dissolved solids Hexavalent chromium	4.49 units 3.3 mg/L 0.000032 mg/L

Sample SB-2-061920 was identified as a source blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
SB-2-061920	pH Total dissolved solids Hexavalent chromium Chloride Nitrate as N Sulfate	4.39 mg/L 4.0 mg/L 0.000056 mg/L 0.19 mg/L 0.024 mg/L 0.26 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-23-3 and Dup-3-2Q2020 and samples MW-12-3 and Dup-4-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-23-3	Dup-3-2Q2020	
pH	7.89 units	7.91 units	0
Total dissolved solids	370 mg/L	370 mg/L	0
Hexavalent chromium	0.0023 mg/L	0.0029 mg/L	23
Chloride	41 mg/L	41 mg/L	0
Nitrate as N	10 mg/L	10 mg/L	0
Sulfate	37 mg/L	37 mg/L	0
Perchlorate	3.7 ug/L	3.2 ug/L	14
Total alkalinity	140 mg/L	140 mg/L	0
Bicarbonate alkalinity	180 mg/L	140 mg/L	25

Analyte	Concentration		RPD
	MW-12-3	Dup-4-2Q2020	
pH	8.09 units	8.02 units	1
Total dissolved solids	320 mg/L	320 mg/L	0
Hexavalent chromium	0.00051 mg/L	0.00054 mg/L	6
Chloride	15 mg/L	15 mg/L	0
Nitrate as N	1.3 mg/L	1.3 mg/L	0
Sulfate	35 mg/L	35 mg/L	0
Perchlorate	4.0 ug/L	4.4 ug/L	10
Total alkalinity	190 mg/L	190 mg/L	0
Bicarbonate alkalinity	440 mg/L	230 mg/L	63

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 twelve 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, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2017828

Sample	Analyte	Flag	A or P	Reason
MW-23-5 MW-23-4 MW-23-3 MW-23-2** MW-23-1 Dup-3-2Q2020 EB-9-061920 MW-12-3 Dup-4-2Q2020 MW-12-2 MW-12-1 SB-2-061920	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2017828

Sample	Analyte	Modified Final Concentration	A or P
MW-23-5	Hexavalent chromium	0.000039U mg/L	A
EB-9-061920	Hexavalent chromium	0.000032U mg/L	A
MW-12-2	Hexavalent chromium	0.000083U mg/L	A
SB-2-061920	Hexavalent chromium Chloride Sulfate	0.000056U mg/L 0.19U mg/L 0.26U mg/L	A

LDC #: 48681D6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/5/2020
SDG #: 2017828 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: DTM
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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=7 SB=12
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(3,6)(8,9)
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	2017828-02	Water	06/19/20
2	MW-23-4	2017828-03	Water	06/19/20
3	MW-23-3	2017828-04	Water	06/19/20
4	MW-23-2**	2017828-05**	Water	06/19/20
5	MW-23-1	2017828-06	Water	06/19/20
6	Dup-3-2Q2020	2017828-07	Water	06/19/20
7	EB-9-061920	2017828-08	Water	06/19/20
8	MW-12-3	2017828-09	Water	06/19/20
9	Dup-4-2Q2020	2017828-10	Water	06/19/20
10	MW-12-2	2017828-11	Water	06/19/20
11	MW-12-1	2017828-12	Water	06/19/20
12	SB-2-061920	2017828-13	Water	06/19/20
13	MW-23-2MS	2017828-05MS	Water	06/19/20
14	MW-23-2MSD	2017828-05MSD	Water	06/19/20
15	MW-23-2DUP	2017828-05DUP	Water	06/19/20
16				

LDC #: 49609\D4a

VALIDATION FINDINGS CHECKLIST

Reviewer: DTM
2nd Reviewer: [signature]

Method: Inorganics (EPA Method)

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 anaylzed 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.				

LDC #: 48608104

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: DTM
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1-12	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 13-14	pH TDS [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 Alk CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC 15	[✓ pH] [✓ TDS] [✓ Cl] F NO_3 NO_2 [✓ SO_4] O-PO_4 [✓ Alk] CN NH_3 TKN TOC [✓ Cr6+] [✓ ClO_4] [✓ NO_3-N] [✓ NO_2-N]
	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
	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:

LDC #: 48681D6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: DTM
2nd reviewer:

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	EPA 150.1						
Parameters:	pH						
Technical holding time:	48hrs						
Sample ID	Sampling date	Analysis date	Total Time	Qualifier	Analysis date	Total Time	Qualifier
1-12	6/1/2020	6/23/2020	4days	J/R/P (det)			

LDC #: 48681D6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** 1-10

Analyte	Blank ID	Blank ID	Blank ID	Blank Action Limit									
	PB (mg/L)	ICB/CCB (ug/L)	ICB/CCB (mg/L)		1	7	10						
Cr6		0.048000	0.048000	0.00024	0.000039	0.000032	0.000083						
Chloride	0.14200		0.14000	0.71									
NO2-N													

Associated Samples: 11-12

Analyte	Blank ID	Blank ID	Blank ID	Blank Action Limit									
	PB (mg/L)	ICB/CCB (ug/L)	ICB/CCB (mg/L)		12								
Cr6		0.048000		0.00022	0.000056								
Chloride	0.20200		0.219	1.095	0.19								
Sulfate	0.25600		0.30600	1.53	0.26								

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 #: 48681D6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: DTM
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:**
Sampling date: 6/19/2020 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB/SB Associated Samples: Xflag

Analyte	Blank ID	Action Limit	Sample Identification							
	7	12	No Qualifiers							
pH(pH units)	4.49	4.39								
TDS	3.3	4.0								
Hexavalent Chromium	0.000032	0.000056								
Chloride		0.19								
NO3-N		0.024								
Sulfate		0.26								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 48681D6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: DTM
2nd Reviewer:

Inorganics, Method See Cover

Analyte	Concentration (mg/L)		RPD
	3	6	
pH (pH units)	7.89	7.91	0
TDS	370	370	0
Hexavalent Chromium	0.0023	0.0029	23
Chloride	41	41	0
Nitrate-N	10	10	0
Sulfate	37	37	0
Perchlorate (ug/L)	3.7	3.2	14
Total Alkalinity	140	140	0
Bicarbonate Alkalinity	180	140	25

Analyte	Concentration (mg/L)		RPD
	8	9	
pH (pH units)	8.09	8.02	1
TDS	320	320	0
Hexavalent Chromium	0.00051	0.00054	6
Chloride	15	15	0
Nitrate-N	1.3	1.3	0
Sulfate	35	35	0
Perchlorate (ug/L)	4.0	4.4	10
Total Alkalinity	190	190	0
Bicarbonate Alkalinity	440	230	63

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LDC #: _48681D6__

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer:_DTM_
2nd Reviewer:

Method: Inorganics, Method ___See Cover_____

The correlation coefficient (r) for the calibration of _Perchlorate___ was recalculated.Calibration date:__6/29/2020___

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

%R = Found X 100 / 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. (mg/L)	Abs	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Cr6	s1	0.193	0.023	*1.0000000*	NR	Y
		s2	1.96	0.251			
		s3	10.033	1.293			
		s4	24.817	3.2			
		s5	50.198	6.475			
ICV Calibration verification	Cl	49.893	50		99.8	99.8	Y
CCV2 Calibration verification	SO4	101.42	100		101	101	Y
ICV Calibration verification	ClO4	10.178	10		102	102	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 #: 46691049

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: DTM
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

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

$\%R = \frac{Found}{True} \times 100$ 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 %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Cr6	0.019306mg/L	0.020000mg/L	96.5	96.5	Y
13	Matrix spike sample	NO3-N	(SSR-SR) 5.376mg/L	5.0505mg/L	106	106	Y
15	Duplicate sample	TDS	845mg/L	825mg/L	2.4	2.4	Y

Comments: _____

LDC #: 49609104q

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: DTM
2nd reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Cr6 reported with a positive detect were recalculated and verified using the following equation:

Concentration = Cr6

Recalculation:

$$\frac{0.120 = 0.1290x + -0.0014}{1000} = 0.00094 \text{ mg/L}$$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	4	Cr6	0.00094	0.00094	Y

Note:

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

August 20, 2020

SUBJECT: NASA JPL, 2Q2020, Data Validation

Dear Mr. Conner,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on July 28, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #48752:

SDG #	Fraction
2017619, 2017925, 2018049 2018201, 2018328	Volatiles, Semivolatiles, 1,4-Dioxane, Metals, 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
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

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

Sincerely,

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

HC

Attachment 1

90/10 (client select) EDD

LDC #48752 (Tidewater- Powell, OH / NASA JPL, 2Q2020)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (524.2)		SVOA (8270C)		1,4-Dioxane (8270C)		Metals (200.7 /200.8)		Alk. (2320B)		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)		TDS (160.1)		pH (150.1)											
Matrix:	Water/Soil			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	W	S
A	2017619	07/28/20	08/18/20	8	0	-	-	1	0	7	0	7	0	7	0	7	0	1	0	7	0	7	0	7	0	7	0										
A	2017619	07/28/20	08/18/20	2	0	-	-	0	0	2	0	2	0	2	0	2	0	0	0	2	0	2	0	2	0	2	0										
B	2017925	07/28/20	08/18/20	11	0	-	-	-	-	10	0	10	0	10	0	10	0	1	0	10	0	10	0	10	0	10	0										
C	2018049	07/28/20	08/18/20	7	0	-	-	-	-	6	0	6	0	6	0	6	0	-	-	6	0	6	0	6	0	6	0										
C	2018049	07/28/20	08/18/20	1	0	-	-	-	-	1	0	1	0	1	0	1	0	-	-	1	0	1	0	1	0	1	0										
D	2018201	07/28/20	08/18/20	4	0	2	0	1	0	3	0	3	0	3	0	3	0	1	0	3	0	3	0	3	0	3	0										
E	2018328	07/28/20	08/18/20	8	0	-	-	1	0	6	0	7	0	7	0	7	0	2	0	6	0	7	0	7	0	7	0										
E	2018328	07/28/20	08/18/20	2	0	-	-	0	0	1	0	2	0	2	0	2	0	1	0	1	0	2	0	2	0	2	0										
Total	T/PG			43	0	2	0	3	0	36	0	38	0	38	0	38	0	6	0	36	0	38	0	38	0	38	0	0	0	0	0	0	0	0	0	0	354

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 14, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-7-061720	20176419-01	Water	06/17/20
MW-22-5	20176419-02	Water	06/17/20
MW-22-4	20176419-03	Water	06/17/20
MW-22-3	20176419-04	Water	06/17/20
MW-22-2**	20176419-05**	Water	06/17/20
MW-22-1	20176419-06	Water	06/17/20
EB-7-061720	20176419-07	Water	06/17/20
MW-24-5	20176419-08	Water	06/17/20
MW-24-2**	20176419-09**	Water	06/17/20
MW-24-1	20176419-10	Water	06/17/20
MW-22-2MS	20176419-05MS	Water	06/17/20
MW-22-2MSD	20176419-05MSD	Water	06/17/20
MW-24-2MS	20176419-09MS	Water	06/17/20
MW-24-2MSD	20176419-09MSD	Water	06/17/20

**Indicates sample underwent Level IV review

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 evaluation, 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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/18/20	Pentachloroethane	76.0	All samples in SDG 2017619	UJ (all non-detects)	P

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
06/19/20 (19JUN03)	Pentachloroethane	53.6	MW-22-2**	UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
06/19/20 (19JUN32)	trans-1,4-Dichloro-2-butene Methyl iodide Pentachloroethane	32.1 64.7 85.3	TB-7-061720 MW-22-5 MW-22-4 MW-22-3 MW-22-1 EB-7-061720 MW-24-5 MW-24-2** MW-24-1	UJ (all non-detects) 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-7-061720 was identified as a trip blank. No contaminants were found.

Sample EB-7-061720 was identified as an equipment 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

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 ICV %D and 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, 2Q2020
Volatiles - Data Qualification Summary - SDG 2017619

Sample	Compound	Flag	A or P	Reason
TB-7-061720 MW-22-5 MW-22-4 MW-22-3 MW-22-2** MW-22-1 EB-7-061720 MW-24-5 MW-24-2** MW-24-1	Pentachloroethane	UJ (all non-detects)	P	Initial calibration verification (%D)
MW-22-2**	Pentachloroethane	UJ (all non-detects)	P	Continuing calibration (%D)
TB-7-061720 MW-22-5 MW-22-4 MW-22-3 MW-22-1 EB-7-061720 MW-24-5 MW-24-2** MW-24-1	trans-1,4-Dichloro-2-butene Methyl iodide Pentachloroethane	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2017619

No Sample Data Qualified in this SDG

LDC #: 48752A1a

SDG #: 2017619

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 8/7/20

Page: 1 of 1

Reviewer: V

2nd Reviewer: FT

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/SW	RSD ≤ 20% or r² ICV ≤ 30%
IV.	Continuing calibration	SW	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=7
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-7-061720	20176419-01	Water	06/17/20
2	MW-22-5	20176419-02	Water	06/17/20
3	MW-22-4	20176419-03	Water	06/17/20
4	MW-22-3	20176419-04	Water	06/17/20
5	MW-22-2**	20176419-05**	Water	06/17/20
6	MW-22-1	20176419-06	Water	06/17/20
7	EB-7-061720	20176419-07	Water	06/17/20
8	MW-24-5	20176419-08	Water	06/17/20
9	MW-24-2**	20176419-09**	Water	06/17/20
10	MW-24-1	20176419-10	Water	06/17/20
11	MW-22-2MS	20176419-05MS	Water	06/17/20
12	MW-22-2MSD	20176419-05MSD	Water	06/17/20
13	MW-24-2MS	20176419-09MS	Water	06/17/20
14	MW-24-2MSD	20176419-09MSD	Water	06/17/20

LDC #: 45524/10

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: 2
2nd Reviewer: 1

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 calibration				
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? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were 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				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for 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 for this SDG?	✓			

LDC #: 18752A19

VALIDATION FINDINGS CHECKLIST

Reviewer: CK
2nd Reviewer: RT

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) within 70-130%?	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were 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				
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 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.

LDC #: 48752A1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: PG
2nd Reviewer: TT

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/18/20	18JUN28	ZZZZ	76.0	All (ND)	J/UJ/P

LDC #: 48752A1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y (N) N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/19/20	19JUN03	ZZZZ	53.6	5, 11-12, BLK (ND)	J/UJ/P
	6/19/20	19JUN32	YYYY	32.1	1-4, 6-10, 13-14, BLK (ND)	J/UJ/P
			Methyl iodide	64.7		
			ZZZZ	85.3		

LDC #: 48752A1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PG
2nd Reviewer: [illegible]

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 RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL (MS-V5)	6/18/20	K (1st internal standard)	0.6723501	0.67235	0.6584789	0.6584789	2.271494	2.272
			S (2nd internal standard)	0.3480862	0.3480861	0.3443647	0.3443647	4.923863	4.924
			EE (3rd internal standard)	1.866471	1.866471	1.794106	1.794106	5.729535	5.729
			(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.

LDC #: 48752A1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: PG
2nd Reviewer: PG

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 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

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	19JUN02	6/19/20	K (1st internal standard)	0.6584789	0.7011749	0.7011749	6.5	6.5
			S (2nd internal standard)	0.3443647	0.3454481	0.345448	0.3	0.3
			EE (3rd internal standard)	1.794106	1.744786	1.744786	2.7	2.7
			(4th internal standard)					
2	19JUN31	6/19/20	K (1st internal standard)	0.6584789	0.70635	0.70635	7.3	7.3
			S (2nd internal standard)	0.3443647	0.3410342	0.3410342	1.0	1.0
			EE (3rd internal standard)	1.794106	1.678582	1.678582	6.4	6.4
			(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.

LDC #: 48152A1a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: P

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: 9

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
Toluene-d8	10.0	9.84	98.4	98.4	
Bromofluorobenzene	↓	9.96	99.6	99.6	
~~1,2-Dichlorobenzene-d4~~ 1,2-DCE	↓	11.37	114	114	
Dibromofluoromethane					

Sample ID:

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

Sample ID:

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

Sample ID:

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

LDC #: 40524A9

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: 9
2nd Reviewer: 5

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 (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	ND	27.47	27.36	110	110	109	109	0.401	0.401
Trichloroethene	↓	↓	0.25	25.74	25.14	102	102	99.6	99.6	2.36	2.36
Benzene			ND	26.090	26.02	104	104	104	104	0.269	0.269
Toluene			↓	24.640	24.17	98.6	98.6	96.7	96.7	1.93	1.93
Chlorobenzene	↓	↓		23.30	23.79	93.2	93.2	95.2	95.2	2.08	2.08

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 #: 45732A19

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: A
2nd Reviewer: M

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy 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 = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: BO80563-BS1

Compound	Spike Added (µg/L)		Spiked Sample Concentration (µg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	26.83	NA	107	107				
Trichloroethene	↓	↓	26.96	↓	108	108				
Benzene	↓	↓	25.69	↓	103	103				
Toluene	↓	↓	24.51	↓	98	98				
Chlorobenzene	↓	↓	22.85	↓	91.4	91.4				

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.

LDC #: 48732A9

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: CV
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

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. 5 , K :

Conc. = (3377)(10.0)(1) / (20183)(0.6587789)( ) = 0.25 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration ( )	Qualification
	5	K	0.25		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 13, 2020

Parameters: 1,4-Dioxane

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-24-1	20176419-10	Water	06/17/20

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:

1,4-Dioxane by Environmental Protection Agency (EPA) SW 846 Method 8270C

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 not 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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

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.

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

NASA JPL, 2Q2020
1,4-Dioxane - Data Qualification Summary - SDG 2017619

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 2017619

No Sample Data Qualified in this SDG

LDC #: 48752A2c
SDG #: 2017619
Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 8/12/20
Page: 1 of 1
Reviewer: 9
2nd Reviewer: F7

METHOD: GC/MS 1,4-Dioxane (EPA SW846 Method 8270C)

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 ≤ 15%. %Dev ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
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; 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-24-1	20176419-10	Water	06/17/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 18, 2020

Parameters: Metals

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-22-5	20176419-02	Water	06/17/20
MW-22-4	20176419-03	Water	06/17/20
MW-22-3	20176419-04	Water	06/17/20
MW-22-2**	20176419-05**	Water	06/17/20
MW-22-1	20176419-06	Water	06/17/20
EB-7-061720	20176419-07	Water	06/17/20
MW-24-5	20176419-08	Water	06/17/20
MW-24-2**	20176419-09**	Water	06/17/20
MW-24-1	20176419-10	Water	06/17/20
MW-22-2MS	20176419-05MS	Water	06/17/20
MW-22-2MSD	20176419-05MSD	Water	06/17/20
MW-22-2DUP	20176419-05DUP	Water	06/17/20
MW-24-2MS	20176419-09MS	Water	06/17/20
MW-24-2MSD	20176419-09MSD	Water	06/17/20
MW-24-2DUP	20176419-09DUP	Water	06/17/20

**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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

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

V. 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	Chromium Arsenic	0.523 ug/L 0.705 ug/L	MW-24-2**
PB (prep blank)	Calcium	0.018126 mg/L	MW-22-2**
ICB/CCB	Potassium	0.11489 mg/L	MW-22-5 MW-24-2**

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-24-2**	Chromium Arsenic	1.8 ug/L 1.9 ug/L	1.8U ug/L 1.9U ug/L

VI. Field Blanks

Sample EB-7-061720 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-7-061720	Chromium Calcium Sodium	1.4 ug/L 0.047 mg/L 0.23 mg/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 with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
MW-22-2MS/MSD (MW-22-2**)	Sodium	129 (75-125)	129 (75-125)	J (all detects)	A

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) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) 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 methods. No results were rejected in this SDG.

Due to MS/MSD %R, data were qualified as estimated in one sample.

Due to laboratory blank contamination, data were qualified as not detected in one sample.

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2017619

Sample	Analyte	Flag	A or P	Reason
MW-22-2**	Sodium	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2017619

Sample	Analyte	Modified Final Concentration	A or P
MW-24-2**	Chromium Arsenic	1.8U ug/L 1.9U ug/L	A

LDC #: 48752A4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2017619 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=6
VII.	Matrix Spike/Matrix Spike Duplicates	SW	(10,11), (13,14)
VIII.	Duplicate sample analysis	A	12,15
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	LCS/LCSD
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-22-5	2017619-02	Water	06/17/20
2	MW-22-4	2017619-03	Water	06/17/20
3	MW-22-3	2017619-04	Water	06/17/20
4	MW-22-2**	2017619-05**	Water	06/17/20
5	MW-22-1	2017619-06	Water	06/17/20
6	EB-7-061720	2017619-07	Water	06/17/20
7	MW-24-5	2017619-08	Water	06/17/20
8	MW-24-2**	2017619-09**	Water	06/17/20
9	MW-24-1	2017619-10	Water	06/17/20
10	MW-22-2MS	2017619-05MS	Water	06/17/20
11	MW-22-2MSD	2017619-05MSD	Water	06/17/20
12	MW-22-2DUP	2017619-05DUP	Water	06/17/20
13	MW-24-2MS	2017619-09MS	Water	06/17/20
14	MW-24-2MSD	2017619-09MSD	Water	06/17/20
15	MW-24-2DUP	2017619-09DUP	Water	06/17/20

METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)				
Validation Area	**Yes**	**No**	**NA**	**Comments**
I. Technical holding times				
Were all technical holding times met?	X			
Were all water samples preserved to a pH of <2.	X			
II. ICP-MS Tune				
Were mass resolutions within 0.1 amu for all isotopes in the tuning solution?	X			
Were %RSDs of isoptoes in the tuning solution ≤5%?	X			
III. Calibration				
Were all instruments calibrated daily?	X			
Were the proper standards used?	X			
Were all initial and continuing calibration verifications within the 90-110% (80-120% for mercury) QC limits?	X			
Were the low level standard checks within 70-130%?			X	not provided
Were all initial calibration correlation coefficients within limits as specifed by the method?	X			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks?	X			
Was there contamination in the initial and continuing calibration blanks?	X			
V. Interference Check Sample				
Were the interference check samples performed daily?	X			
Were the AB solution recoveries within 80-120%?	X			
VI. Matrix Spike/Matrix Spike Duplicates/Laboratory Duplicates				
Were MS/MSD recoveries within the QC limits? (If the sample concentration exceeded the spike concentration by a factor of 4, no action was taken.)		X		
Were the MS/MSD or laboratory duplicate relative percent differences (RPDs) within the QC limits?	X			
VII. Laboratory Control Samples				
SDG?	X			

Were the LCS recoveries and RPDs (if applicable) within QC limits?	X			
METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)				
Validation Area	**Yes**	**No**	**NA**	**Comments**
VIII. Internal Standards				
Were all percent recoveries within the 30-120% (60-125% for EPA Method 200.8) QC limits?	X			
If the recoveries were outside the limits, was a reanalysis performed?			X	
IX. Serial Dilution				
Were all percent differences <10%?	X			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		X		
X. Sample Result Verification				
Were all reporting limits adjusted to reflect sample dilutions?	X			
Were all soil samples dry weight corrected?			X	
XI. Overall Assessment of Data				
Was the overall assessment of the data found to be acceptable?	X			
XII. Field Duplicates				
Were field duplicates identifed in this SDG?		X		
Were target analytes detected in the field duplicates?			X	
XIII. Field Blanks				
Were field blanks identified in this SDG?	X			
Were target analytes detected in the field blanks?	X			

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 9	Fe, As,Cr,Pb,Ca,Mg,Na,K
QC	
10 to 15	Fe, As,Cr,Pb,Ca,Mg,Na,K

Analysis Method

ICP	Fe,Ca,Mg,Na,K
ICP-MS	As,Cr,Pb
CVAA	

VALIDATION FINDINGS WORKSHEET
Laboratory Blank Contamination (PB/ICB/CCB)

Reviewer: ATL

METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: Associated Samples: 8

				Sample Identification								
Analyte	**PB (units)**	**Maximum ICB/CCB (ug/L)**	**Action Level**	8								
Cr		0.523	2.615	1.8								
As		0.705	3.525	1.9								

Sample Concentration, unless otherwise noted: Associated Samples: 4

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Ca	0.018126		0.09063									

Sample Concentration, unless otherwise noted: Associated Samples: 1,8

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
K		0.11489	0.57445									

Comments: The listed analyte concentrtaion is the highest ICB or CCB detected in the analysis. The action level, when applicable, is established at 5X the highest ICB, CCB, or PB concentration.

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: ATL

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

Blank units: ug/L, mg/L Associated sample units: ug/L, mg/L
Sampling Date: 6/17/20
Associated Samples: none

			Sample Identification									
Analyte	Blank ID	Blank Conc	Action Level									
Cr (ug/L)	6	1.4										
Ca (mg/L)	6	0.047										
Na (mg/L)	6	0.23										

Comments: The action level, when applicable, is establised at 5X the highest concentration.

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

MS/MSD analysis was performed by the laboratory. All MS/MSD percent recoveries (%R) and relative percent differences (RPDs) were within the acceptable limits with the following exceptions:

MS/MSD ID	Matrix	Analyte	MS %R	MSD %R	%R Limit	RPD	RPD Limit	Associated Samples	Qualification	Det/ND
10 & 11	W	Na	129	129	75-125			4	Jdet/A	det

Comments: 10/11: Ca > 4X

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

An intial calibration verification (ICV), continuing calibration verification (CCV), low level calibration check (LLCC), and interference check sample (ICSAB) percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = (Found/True) x 100

Found = concentration of each analyte measured in the analysis

True = concentration of each analyte in the source

Standard ID	Type of Analysis	Element	Found	True	Recalculated %R	Reported %R	Acceptable (Y/N)
ICV	ICP	Na(mg/L)	50.38	50	100.76	101	Y
CCV	ICP	Fe(mg/L)	10.6	10	106	106	Y
LLCC	ICP						
ICSAB	ICP	Mg(mg/L)	535.4	500	107.08	107	Y
ICV	ICP-MS	As(ug/L)	121.921	125	97.5368	97.5	Y
CCV	ICP-MS	Cr(ug/L)	39.955	40	99.8875	99.9	Y
LLCC	ICP-MS						
ICSAB	ICP-MS						
ICV	CVAA						
CCV	CVAA						

ICP-MS Tune	QC Parameter	Mass	Actual	Required
	Mass Axis	23.985	23.978	± 0.1 amu
	%RSD	114.9	0.4	≤ 5%

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

Percent recoveries (%R) for the laboratory control sample (LCS), matrix spike (MS), and post digestion spike (PDS) were recalculated using the following formula:

%R = (Found/True) x 100

Found = concentration of each analyte measured in the analysis. For the MS calculation, Found = SSR (Spiked Sample Result) - SR (Sample Result)

True = concentration of each analyte in the source

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

RPD = (Absolute value(S-D)x 200) / (S+D)

S = Original sample concentration

D = Duplicate sample concentration

The serial dilution percent difference (%D) was recalculated using the following formula.

%D = (Absolute value (I - SDR)) x 100 / (I)

I = Initial sample result

SDR = Serial dilution result (with a 5x dilution applied)

Sample ID	Type of Analysis	Element	Found/S/I	True/D/SDR	Recalculated %R/RPD/%D	Reported %R/RPD/%D	Acceptable (Y/N)
LCS	LCS	Fe	1105	1000	110.5	111	Y
10	MS	Pb	98.371	100	98.371	98.4	Y
12	Duplicate	Mg	25.46	24.623	3.34245153	3.33	Y
8	PDS	As	125.928	100	125.928	126	Y
5	Serial dilution	Fe	79.5	52	52.88461538	52.8	Y

VALIDATION FINDINGS CHECKLIST

Sample Calculation Verification

Reviewer:

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

Analytes were recalculated and verified using the following equation:

Concentration = (Result from raw data x Final volume x Dilution factor) / (Initial volume)

Sample ID	Analyte	Raw Data	Dilution	Initial Weight/ Volume (ml)	Final Volume (ml)	Reported Result	Recalculated Result	Acceptable (Y/N)
4	Cr (ug/L)	1.44	1	50	50	1.4	1.44	Y
4	Fe (ug/L)	0.052	1	50	50	52	52	Y
4	Ca (mg/L)	64.03	1	50	50	64	64.03	Y
8	As (ug/L)	1.927	1	50	50	1.9	1.927	Y
8	Fe (ug/L)	0.0898	1	50	50	90	89.8	Y
8	Na (mg/L)	43.92	1	50	50	44	43.92	Y

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 18, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-22-5	20176419-02	Water	06/17/20
MW-22-4	20176419-03	Water	06/17/20
MW-22-3	20176419-04	Water	06/17/20
MW-22-2**	20176419-05**	Water	06/17/20
MW-22-1	20176419-06	Water	06/17/20
EB-7-061720	20176419-07	Water	06/17/20
MW-24-5	20176419-08	Water	06/17/20
MW-24-2**	20176419-09**	Water	06/17/20
MW-24-1	20176419-10	Water	06/17/20
MW-22-2MS	20176419-05MS	Water	06/17/20
MW-22-2MSD	20176419-05MSD	Water	06/17/20
MW-22-2DUP	20176419-05DUP	Water	06/17/20
MW-24-2MS	20176419-09MS	Water	06/17/20
MW-24-2MSD	20176419-09MSD	Water	06/17/20
MW-24-2DUP	20176419-09DUP	Water	06/17/20
MW-24-1MS	20176419-10MS	Water	06/17/20
MW-24-1MSD	20176419-10MSD	Water	06/17/20
MW-24-1DUP	20176419-10DUP	Water	06/17/20

**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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Orthophosphate as Phosphorus as EPA Method 365.1
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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-22-5 MW-22-4 MW-22-3 MW-22-2** MW-22-1 EB-7-061720 MW-24-5 MW-24-2** MW-24-1	pH	6 days	48 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)	Nitrite as N	0.018332 mg/L	MW-22-2**
ICB/CCB	Nitrite as N	0.017832 mg/L	MW-22-5 MW-22-4 MW-22-3 MW-22-2** MW-22-1

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-22-5	Nitrite as N	0.015 mg/L	0.015U mg/L
MW-22-4	Nitrite as N	0.016 mg/L	0.016U mg/L
MW-22-3	Nitrite as N	0.016 mg/L	0.016U mg/L
MW-22-2**	Nitrite as N	0.016 mg/L	0.016U mg/L
MW-22-1	Nitrite as N	0.014 mg/L	0.014U mg/L

V. Field Blanks

Sample EB-7-061720 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-7-061720	Total dissolved solids Hexavalent chromium	3.3 mg/L 0.000038 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 nine samples.

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, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2017619

Sample	Analyte	Flag	A or P	Reason
MW-22-5 MW-22-4 MW-22-3 MW-22-2** MW-22-1 EB-7-061720 MW-24-5 MW-24-2** MW-24-1	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2017619

Sample	Analyte	Modified Final Concentration	A or P
MW-22-5	Nitrite as N	0.015U mg/L	A
MW-22-4	Nitrite as N	0.016U mg/L	A
MW-22-3	Nitrite as N	0.016U mg/L	A
MW-22-2**	Nitrite as N	0.016U mg/L	A
MW-22-1	Nitrite as N	0.014U mg/L	A

LDC #: 48752A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2017619 Level III/IV Page: 1 of 2
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Orthophosphate-P (EPA Method 365.1), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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=6
VI.	Matrix Spike/Matrix Spike Duplicates	A	(10,11), (13,14), (16,17)
VII.	Duplicate sample analysis	A	12,15,18
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-22-5	2017619-02	Water	06/17/20
2	MW-22-4	2017619-03	Water	06/17/20
3	MW-22-3	2017619-04	Water	06/17/20
4	MW-22-2**	2017619-05**	Water	06/17/20
5	MW-22-1	2017619-06	Water	06/17/20
6	EB-7-061720	2017619-07	Water	06/17/20
7	MW-24-5	2017619-08	Water	06/17/20
8	MW-24-2**	2017619-09**	Water	06/17/20
9	MW-24-1	2017619-10	Water	06/17/20
10	MW-22-2MS	2017619-05MS	Water	06/17/20
11	MW-22-2MSD	2017619-05MSD	Water	06/17/20
12	MW-22-2DUP	2017619-05DUP	Water	06/17/20
13	MW-24-2MS	2017619-09MS	Water	06/17/20
14	MW-24-2MSD	2017619-09MSD	Water	06/17/20
15	MW-24-2DUP	2017619-09DUP	Water	06/17/20
16	MW-24-1MS	2017619-10MS	Water	06/17/20

LDC #: 48752A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2017619 Level III/IV
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Orthophosphate-P (EPA Method 365.1), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

	Client ID	Lab ID	Matrix	Date
17	MW-24-1MSD	2017619-10MSD	Water	06/17/20
18	MW-24-1DUP	2017619-10DUP	Water	06/17/20
19				
20				
21				

Notes:

METHOD: Inorganics				
Validation Area	**Yes**	**No**	**NA**	**Comments**
I. Technical holding times				
Were all technical holding times met?		X		
II. Calibration				
Were all instruments calibrated at the required frequency?	X			
Were the proper number of standards used?	X			
Were all initial and continuing calibration verifications within the QC limits?	X			
Were all initial calibration correlation coefficients within limits as specifed by the method?	X			
Were balance checks performed as required?				
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks?	X			
Was there contamination in the initial and continuing calibration blanks?	X			
IV. Matrix Spike/Matrix Spike Duplicates/Laboratory Duplicates				
Were MS/MSD recoveries within the QC limits? (If the sample concentration exceeded the spike concentration by a factor of 4, no action was taken.)	X			
Were the MS/MSD or laboratory duplicate relative percent differences (RPDs) within the QC limits?	X			
V. Laboratory Control Samples				
Was a LCS analyzed for each batch in the SDG?	X			
Were the LCS recoveries and RPDs (if applicable) within QC limits?	X			
X. Sample Result Verification				
Were all reporting limits adjusted to reflect sample dilutions?	X			
Were all soil samples dry weight corrected?			X	
XI. Overall Assessment of Data				
Was the overall assessment of the data found to be acceptable?	X			

METHOD: Inorganics				
Validation Area	**Yes**	**No**	**NA**	**Comments**
XII. Field Duplicates				
Were field duplicates identifed in this SDG?		X		
Were target analytes detected in the field duplicates?			X	
XIII. Field Blanks				
Were field blanks identified in this SDG?	X			
Were target analytes detected in the field blanks?	X			

Sample Specific Element Reference

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 9	pH, TDS, Cr6+, Cl, NO3-N, SO4, ClO4, NO2-N, Alk
9	PO4-P
QC	
12,15	pH, TDS, Alk
13,14,15	Cr6+
10 to 15	Cl, NO3-N, SO4, ClO4, NO2-N
16,17,18	PO4-P

Holding Time

METHOD: Inorganics

All samples were properly preserved and within the requried holding time with the following exceptions:

		Method: EPA 150.1 Analyte: pH Holding Time: 48hrs			
Sample ID	**Sampling Date**	**Analysis Date**	**Total Time from Collection to Analysis**	**Qualifier**	**Det/ND**
1 to 9	6/17/2020	6/23/2020	6 days	J/UJ/P	det

Preservation

Sample ID	**Preservation**	**Preservation Requirement (pH)**	**Qualifier**	**Det/ND**

VALIDATION FINDINGS WORKSHEET
Laboratory Blank Contamination (PB/ICB/CCB)

METHOD: Inorganics
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 4

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (units)**	**Action Level**	4								
NO2-N	0.018332		0.09166	0.016								

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 1 to 5

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**	1	2	3	4	5				
NO2-N		0.017832	0.08916	0.015	0.016	0.016	0.016	0.014				

Comments: The listed analyte concentrtaion is the highest ICB or CCB detected in the analysis. The action level, when applicable, is establised at 5X the highest ICB, CCB, or PB concentration.

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: ATL

METHOD: Inorganics

Blank units: mg/L
Associated sample units: mg/L
Sampling Date: 6/17/20
Associated Samples: none

			Sample Identification									
Analyte	Blank ID	Blank Conc	Action Level									
TDS	6	3.3										
Cr6+		0.000038										

Comments: The action level, when applicable, is estabilised at 5X the highest concentration.

LDC #: 48752A6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Method: Inorganics, Method see cover

The correlation coefficient (r) for the calibration of NO3-N was recalculated. Calibration date: 6/15/20

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. (mg/l)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial Calibration Verification	NO3-N	s1	0.1	0.028	*0.999970*	0.997959	Y
		s2	0.5	0.184			
		s3	2	0.778			
		s4	5	1.984			
		s5	10	4.288			
		s6	20	9.375			
Calibration verification	Cr6+	24.7917	25		99.1668	99.2	Y
Calibration verification	ClO4-	10.4903	10		104.903	105	Y
Calibration verification	NO2-N	0.5078	0.5		101.56	101	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.

METHOD: Inorganics

Percent recoveries (%R) for the laboratory control sample (LCS) and matrix spike (MS) were recalcuated using the following formula:
%R = (Found/True) x 100
Found = concentration of each analyte measured in the analysis. For the MS calculation, Found = SSR (Spiked Sample Result) - SR (Sample Result)
True = concentration of each analyte in the source
The sample and duplicate relative percent difference (RPD) was recalculated using the following formula:
RPD = (Absolute value(S-D)x 200) / (S+D)
S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found/S	True/D	Recalculated %R/RPD	Reported %R/RPD	Acceptable (Y/N)
LCS	LCS	TDS	585	586	99.82935154	99.8	Y
13	MS	Cl	51.4468	50.505	101.8647659	105	Y
12	Duplicate	Alk	185.744	190.62	2.591108608	2.5	Y

METHOD: Inorganics

Analytes were recalculated and verified using the following equation:

Concentration = (Result from raw data x Final volume x Dilution factor) / (Percent solids (if applicable) x Initial weight or volume)

Sample ID	Analyte	Raw Data (mg/L)	Dilution	Initial Weight/ Volume (ml)	Final Volume (ml)	Percent solids (%)	Reported Result (mg/L)	Recalculated Result (mg/L)	Acceptable (Y/N)
4	pH (pH Units)	8.12	1	50	50	100	8.12	8.12	Y
4	TDS	223	2	50	50	100	450	446	Y
4	Cr6+	0.001264	1	20	20	100	0.0013	0.001264	Y
4	Cl	51.703	1	20	20	100	52	51.703	Y
4	ClO4- (ppb)	3	1	20	20	100	2.8	3	Y
4	NO2-N	0.0165	1	20	20	100	0.016	0.0165	Y
4	Alk total	190.456	1	50	50	100	190	190.456	Y
8	pH (pH Units)	8.03	1	50	50	100	8.03	8.03	Y
8	TDS	184	2	50	50	100	370	368	Y
8	Cr6+	0.002184	1	20	20	100	0.0022	0.002184	Y
8	SO4	29.223	1	20	20	100	29	29.223	Y
8	ClO4- (ppb)	5	1	20	20	100	4.9	5	Y
8	NO2-N	0.0055	1	20	20	100	ND	0.0055	Y
8	Alk Bicarbonate	206.949	1	50	50	100	210	206.949	Y

NASA JPL, 2Q2020 - LDC# 48752A

SDG: 2017619

Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-061720	2017619-07	pH	6/23/2020	4.56	Y	y	v	J	0.05	0.05	pH Units
MW-22-1	2017619-06	pH	6/23/2020	7.93	Y	y	v	J	0.05	0.05	pH Units
MW-22-2	2017619-05	pH	6/23/2020	8.12	Y	y	v	J	0.05	0.05	pH Units
MW-22-3	2017619-04	pH	6/23/2020	8.04	Y	y	v	J	0.05	0.05	pH Units
MW-22-4	2017619-03	pH	6/23/2020	7.88	Y	y	v	J	0.05	0.05	pH Units
MW-22-S	2017619-02	pH	6/23/2020	9.04	Y	y	v	J	0.05	0.05	pH Units
MW-24-1	2017619-10	pH	6/23/2020	7.81	Y	y	v	J	0.05	0.05	pH Units
MW-24-2	2017619-09	pH	6/23/2020	8.03	Y	y	v	J	0.05	0.05	pH Units
MW-24-5	2017619-08	pH	6/23/2020	8.09	Y	y	v	J	0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-061720	2017619-07	Total Dissolved Solids @ 180 C	6/19/2020	3.3	Y	y	v j		6.7	3.3	mg/L
MW-22-1	2017619-06	Total Dissolved Solids @ 180 C	6/19/2020	600	Y	y	v		33	17	mg/L
MW-22-2	2017619-05	Total Dissolved Solids @ 180 C	6/19/2020	450	Y	y	v		20	10	mg/L
MW-22-3	2017619-04	Total Dissolved Solids @ 180 C	6/19/2020	340	Y	y	v		20	10	mg/L
MW-22-4	2017619-03	Total Dissolved Solids @ 180 C	6/19/2020	220	Y	y	v		20	10	mg/L
MW-22-S	2017619-02	Total Dissolved Solids @ 180 C	6/19/2020	220	Y	y	v		20	10	mg/L
MW-24-1	2017619-10	Total Dissolved Solids @ 180 C	6/19/2020	450	Y	y	v		33	17	mg/L
MW-24-2	2017619-09	Total Dissolved Solids @ 180 C	6/19/2020	370	Y	y	v		20	10	mg/L
MW-24-5	2017619-08	Total Dissolved Solids @ 180 C	6/19/2020	270	Y	y	v		20	10	mg/L

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-061720	2017619-07	Total Recoverable Potassium	6/23/2020	1	Y	n	u		1.0	0.10	mg/L

SDG: 2017619

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-061720	2017619-07	Total Recoverable Iron	6/23/2020	50	Y	n	u		50	30	ug/L
EB-7-061720	2017619-07	Total Recoverable Sodium	6/23/2020	0.23	Y	y	v j		0.50	0.051	mg/L
EB-7-061720	2017619-07	Total Recoverable Calcium	6/23/2020	0.047	Y	y	v j		0.10	0.014	mg/L
EB-7-061720	2017619-07	Total Recoverable Magnesium	6/23/2020	0.05	Y	n	u		0.050	0.019	mg/L
MW-22-1	2017619-06	Total Recoverable Sodium	6/23/2020	30	Y	y	v		0.50	0.051	mg/L
MW-22-1	2017619-06	Total Recoverable Iron	6/23/2020	200	Y	y	v		50	30	ug/L
MW-22-1	2017619-06	Total Recoverable Magnesium	6/23/2020	32	Y	y	v		0.050	0.019	mg/L
MW-22-1	2017619-06	Total Recoverable Potassium	6/23/2020	2.3	Y	y	v		1.0	0.10	mg/L
MW-22-1	2017619-06	Total Recoverable Calcium	6/23/2020	95	Y	y	v		0.10	0.014	mg/L
MW-22-2	2017619-05	Total Recoverable Magnesium	6/23/2020	25	Y	y	v		0.050	0.019	mg/L
MW-22-2	2017619-05	Total Recoverable Calcium	6/23/2020	64	Y	y	v		0.10	0.014	mg/L
MW-22-2	2017619-05	Total Recoverable Potassium	6/23/2020	2.2	Y	y	v		1.0	0.10	mg/L
MW-22-2	2017619-05	Total Recoverable Iron	6/23/2020	52	Y	y	v		50	30	ug/L
MW-22-2	2017619-05	Total Recoverable Sodium	6/23/2020	31	Y	y	v	J	0.50	0.051	mg/L
MW-22-3	2017619-04	Total Recoverable Potassium	6/23/2020	2.1	Y	y	v		1.0	0.10	mg/L
MW-22-3	2017619-04	Total Recoverable Magnesium	6/23/2020	17	Y	y	v		0.050	0.019	mg/L
MW-22-3	2017619-04	Total Recoverable Calcium	6/23/2020	42	Y	y	v		0.10	0.014	mg/L
MW-22-3	2017619-04	Total Recoverable Iron	6/23/2020	39	Y	y	v j		50	30	ug/L
MW-22-3	2017619-04	Total Recoverable Sodium	6/23/2020	38	Y	y	v		0.50	0.051	mg/L
MW-22-4	2017619-03	Total Recoverable Calcium	6/23/2020	36	Y	y	v		0.10	0.014	mg/L
MW-22-4	2017619-03	Total Recoverable Potassium	6/23/2020	1.7	Y	y	v		1.0	0.10	mg/L
MW-22-4	2017619-03	Total Recoverable Magnesium	6/23/2020	11	Y	y	v		0.050	0.019	mg/L
MW-22-4	2017619-03	Total Recoverable Iron	6/23/2020	39	Y	y	v j		50	30	ug/L
MW-22-4	2017619-03	Total Recoverable Sodium	6/23/2020	29	Y	y	v		0.50	0.051	mg/L
MW-22-S	2017619-02	Total Recoverable Sodium	6/23/2020	62	Y	y	v		0.50	0.051	mg/L

SDG: 2017619

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-22-S	2017619-02	Total Recoverable Iron	6/23/2020	53	Y	y	v		50	30	ug/L
MW-22-S	2017619-02	Total Recoverable Potassium	6/23/2020	0.7	Y	y	v j		1.0	0.10	mg/L
MW-22-S	2017619-02	Total Recoverable Calcium	6/23/2020	5.5	Y	y	v		0.10	0.014	mg/L
MW-22-S	2017619-02	Total Recoverable Magnesium	6/23/2020	1.6	Y	y	v		0.050	0.019	mg/L
MW-24-1	2017619-10	Total Recoverable Potassium	6/23/2020	3.5	Y	y	v		1.0	0.10	mg/L
MW-24-1	2017619-10	Total Recoverable Sodium	6/23/2020	40	Y	y	v		0.50	0.051	mg/L
MW-24-1	2017619-10	Total Recoverable Iron	6/23/2020	180	Y	y	v		50	30	ug/L
MW-24-1	2017619-10	Total Recoverable Magnesium	6/23/2020	20	Y	y	v		0.050	0.019	mg/L
MW-24-1	2017619-10	Total Recoverable Calcium	6/23/2020	65	Y	y	v		0.10	0.014	mg/L
MW-24-2	2017619-09	Total Recoverable Magnesium	6/23/2020	15	Y	y	v		0.050	0.019	mg/L
MW-24-2	2017619-09	Total Recoverable Iron	6/23/2020	90	Y	y	v		50	30	ug/L
MW-24-2	2017619-09	Total Recoverable Potassium	6/23/2020	2.8	Y	y	v		1.0	0.10	mg/L
MW-24-2	2017619-09	Total Recoverable Sodium	6/23/2020	44	Y	y	v		0.50	0.051	mg/L
MW-24-2	2017619-09	Total Recoverable Calcium	6/23/2020	51	Y	y	v		0.10	0.014	mg/L
MW-24-5	2017619-08	Total Recoverable Iron	6/23/2020	250	Y	y	v		50	30	ug/L
MW-24-5	2017619-08	Total Recoverable Calcium	6/23/2020	37	Y	y	v		0.10	0.014	mg/L
MW-24-5	2017619-08	Total Recoverable Sodium	6/23/2020	38	Y	y	v		0.50	0.051	mg/L
MW-24-5	2017619-08	Total Recoverable Potassium	6/23/2020	1.7	Y	y	v		1.0	0.10	mg/L
MW-24-5	2017619-08	Total Recoverable Magnesium	6/23/2020	9.6	Y	y	v		0.050	0.019	mg/L

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-061720	2017619-07	Total Recoverable Arsenic	6/23/2020	2	Y	n	u		2.0	0.70	ug/L
EB-7-061720	2017619-07	Total Recoverable Lead	6/23/2020	1	Y	n	u		1.0	0.10	ug/L
EB-7-061720	2017619-07	Total Recoverable Chromium	6/23/2020	1.4	Y	y	v j		3.0	0.50	ug/L

SDG: 2017619

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-22-1	2017619-06	Total Recoverable Arsenic	6/23/2020	2	Y	n	u		2.0	0.70	ug/L
MW-22-1	2017619-06	Total Recoverable Chromium	6/23/2020	0.86	Y	y	v j		3.0	0.50	ug/L
MW-22-1	2017619-06	Total Recoverable Lead	6/23/2020	1	Y	n	u		1.0	0.10	ug/L
MW-22-2	2017619-05	Total Recoverable Chromium	6/23/2020	1.4	Y	y	v j		3.0	0.50	ug/L
MW-22-2	2017619-05	Total Recoverable Arsenic	6/23/2020	2	Y	n	u		2.0	0.70	ug/L
MW-22-2	2017619-05	Total Recoverable Lead	6/23/2020	1	Y	n	u		1.0	0.10	ug/L
MW-22-3	2017619-04	Total Recoverable Lead	6/23/2020	1	Y	n	u		1.0	0.10	ug/L
MW-22-3	2017619-04	Total Recoverable Chromium	6/23/2020	0.96	Y	y	v j		3.0	0.50	ug/L
MW-22-3	2017619-04	Total Recoverable Arsenic	6/23/2020	2	Y	n	u		2.0	0.70	ug/L
MW-22-4	2017619-03	Total Recoverable Lead	6/23/2020	1	Y	n	u		1.0	0.10	ug/L
MW-22-4	2017619-03	Total Recoverable Chromium	6/23/2020	2.8	Y	y	v j		3.0	0.50	ug/L
MW-22-4	2017619-03	Total Recoverable Arsenic	6/23/2020	2	Y	n	u		2.0	0.70	ug/L
MW-22-S	2017619-02	Total Recoverable Arsenic	6/23/2020	2	Y	n	u		2.0	0.70	ug/L
MW-22-S	2017619-02	Total Recoverable Chromium	6/23/2020	3	Y	n	u		3.0	0.50	ug/L
MW-22-S	2017619-02	Total Recoverable Lead	6/23/2020	1	Y	n	u		1.0	0.10	ug/L
MW-24-1	2017619-10	Total Recoverable Chromium	6/23/2020	1.1	Y	y	v j		3.0	0.50	ug/L
MW-24-1	2017619-10	Total Recoverable Arsenic	6/23/2020	2	Y	n	u		2.0	0.70	ug/L
MW-24-1	2017619-10	Total Recoverable Lead	6/23/2020	1	Y	n	u		1.0	0.10	ug/L
MW-24-2	2017619-09	Total Recoverable Arsenic	6/23/2020	1.9	Y	y	v j	U	2.0	0.70	ug/L
MW-24-2	2017619-09	Total Recoverable Chromium	6/23/2020	1.8	Y	y	v j	U	3.0	0.50	ug/L
MW-24-2	2017619-09	Total Recoverable Lead	6/23/2020	1	Y	n	u		1.0	0.10	ug/L
MW-24-5	2017619-08	Total Recoverable Lead	6/23/2020	0.13	Y	y	v j		1.0	0.10	ug/L
MW-24-5	2017619-08	Total Recoverable Arsenic	6/23/2020	2.3	Y	y	v		2.0	0.70	ug/L
MW-24-5	2017619-08	Total Recoverable Chromium	6/23/2020	3.1	Y	y	v		3.0	0.50	ug/L

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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-7-061720	2017619-07	Hexavalent Chromium	6/18/2020	######	Y	y	v j		0.0002	0.0000	mg/L
MW-22-1	2017619-06	Hexavalent Chromium	6/18/2020	######	Y	y	v		0.0002	0.0000	mg/L
MW-22-2	2017619-05	Hexavalent Chromium	6/18/2020	0.0013	Y	y	v		0.0002	0.0000	mg/L
MW-22-3	2017619-04	Hexavalent Chromium	6/18/2020	######	Y	y	v		0.0002	0.0000	mg/L
MW-22-4	2017619-03	Hexavalent Chromium	6/18/2020	0.0025	Y	y	v		0.0002	0.0000	mg/L
MW-22-S	2017619-02	Hexavalent Chromium	6/18/2020	######	Y	y	v j		0.0002	0.0000	mg/L
MW-24-1	2017619-10	Hexavalent Chromium	6/18/2020	######	Y	y	v j		0.0002	0.0000	mg/L
MW-24-2	2017619-09	Hexavalent Chromium	6/18/2020	0.0022	Y	y	v		0.0002	0.0000	mg/L
MW-24-5	2017619-08	Hexavalent Chromium	6/18/2020	0.0023	Y	y	v		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
EB-7-061720	2017619-07	Nitrate as N	6/18/2020	0.1	Y	n	u		0.10	0.024	mg/L
EB-7-061720	2017619-07	Chloride	6/18/2020	0.5	Y	n	u		0.50	0.13	mg/L
EB-7-061720	2017619-07	Sulfate	6/18/2020	1	Y	n	u		1.0	0.14	mg/L
MW-22-1	2017619-06	Chloride	6/19/2020	83	Y	y	v		0.50	0.13	mg/L
MW-22-1	2017619-06	Sulfate	6/19/2020	80	Y	y	v		1.0	0.14	mg/L
MW-22-1	2017619-06	Nitrate as N	6/19/2020	3.5	Y	y	v		0.10	0.024	mg/L
MW-22-2	2017619-05	Chloride	6/19/2020	52	Y	y	v		0.50	0.13	mg/L
MW-22-2	2017619-05	Nitrate as N	6/19/2020	7.6	Y	y	v		0.10	0.024	mg/L
MW-22-2	2017619-05	Sulfate	6/19/2020	56	Y	y	v		1.0	0.14	mg/L
MW-22-3	2017619-04	Chloride	6/19/2020	38	Y	y	v		0.50	0.13	mg/L
MW-22-3	2017619-04	Nitrate as N	6/19/2020	7.4	Y	y	v		0.10	0.024	mg/L
MW-22-3	2017619-04	Sulfate	6/19/2020	40	Y	y	v		1.0	0.14	mg/L
MW-22-4	2017619-03	Nitrate as N	6/19/2020	4.5	Y	y	v		0.10	0.024	mg/L

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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-22-4	2017619-03	Sulfate	6/19/2020	11	Y	y	v		1.0	0.14	mg/L
MW-22-4	2017619-03	Chloride	6/19/2020	14	Y	y	v		0.50	0.13	mg/L
MW-22-S	2017619-02	Sulfate	6/19/2020	36	Y	y	v		1.0	0.14	mg/L
MW-22-S	2017619-02	Nitrate as N	6/19/2020	0.1	Y	n	u		0.10	0.024	mg/L
MW-22-S	2017619-02	Chloride	6/19/2020	7.2	Y	y	v		0.50	0.13	mg/L
MW-24-1	2017619-10	Sulfate	6/18/2020	50	Y	y	v		1.0	0.14	mg/L
MW-24-1	2017619-10	Chloride	6/18/2020	76	Y	y	v		0.50	0.13	mg/L
MW-24-1	2017619-10	Nitrate as N	6/18/2020	0.88	Y	y	v		0.10	0.024	mg/L
MW-24-2	2017619-09	Sulfate	6/18/2020	29	Y	y	v		1.0	0.14	mg/L
MW-24-2	2017619-09	Nitrate as N	6/18/2020	2.1	Y	y	v		0.10	0.024	mg/L
MW-24-2	2017619-09	Chloride	6/18/2020	56	Y	y	v		0.50	0.13	mg/L
MW-24-5	2017619-08	Nitrate as N	6/18/2020	1.1	Y	y	v		0.10	0.024	mg/L
MW-24-5	2017619-08	Chloride	6/18/2020	8.7	Y	y	v		0.50	0.13	mg/L
MW-24-5	2017619-08	Sulfate	6/18/2020	21	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
EB-7-061720	2017619-07	Perchlorate	6/25/2020	4	Y	n	u		4.0	0.81	ug/L
MW-22-1	2017619-06	Perchlorate	6/26/2020	160	Y	y	v		80	16	ug/L
MW-22-2	2017619-05	Perchlorate	6/25/2020	2.8	Y	y	v j		4.0	0.81	ug/L
MW-22-3	2017619-04	Perchlorate	6/25/2020	3.5	Y	y	v j		4.0	0.81	ug/L
MW-22-4	2017619-03	Perchlorate	6/25/2020	4	Y	n	u		4.0	0.81	ug/L
MW-22-S	2017619-02	Perchlorate	6/25/2020	4	Y	n	u		4.0	0.81	ug/L
MW-24-1	2017619-10	Perchlorate	6/25/2020	5.6	Y	y	v		4.0	0.81	ug/L
MW-24-2	2017619-09	Perchlorate	6/25/2020	4.9	Y	y	v		4.0	0.81	ug/L

SDG: 2017619

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-24-5	2017619-08	Perchlorate	6/25/2020	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
EB-7-061720	2017619-07	Nitrite as N	6/18/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-22-1	2017619-06	Nitrite as N	6/18/2020	0.014	Y	y	v j	U	0.050	0.010	mg/L
MW-22-2	2017619-05	Nitrite as N	6/18/2020	0.016	Y	y	v j	U	0.050	0.010	mg/L
MW-22-3	2017619-04	Nitrite as N	6/18/2020	0.016	Y	y	v j	U	0.050	0.010	mg/L
MW-22-4	2017619-03	Nitrite as N	6/18/2020	0.016	Y	y	v j	U	0.050	0.010	mg/L
MW-22-S	2017619-02	Nitrite as N	6/18/2020	0.015	Y	y	v j	U	0.050	0.010	mg/L
MW-24-1	2017619-10	Nitrite as N	6/18/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-24-2	2017619-09	Nitrite as N	6/18/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-24-5	2017619-08	Nitrite as N	6/18/2020	0.05	Y	n	u		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
MW-24-1	2017619-10	ortho-Phosphate as P	6/19/2020	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
EB-7-061720	2017619-07	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-061720	2017619-07	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
EB-7-061720	2017619-07	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L
EB-7-061720	2017619-07	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
EB-7-061720	2017619-07	Carbon disulfide	6/19/2020	1	Y	n	u		1.0	0.48	ug/L
EB-7-061720	2017619-07	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
EB-7-061720	2017619-07	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L

SDG: 2017619

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-7-061720	2017619-07	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-7-061720	2017619-07	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-061720	2017619-07	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
EB-7-061720	2017619-07	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-7-061720	2017619-07	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-061720	2017619-07	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-061720	2017619-07	Trichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-061720	2017619-07	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-061720	2017619-07	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-7-061720	2017619-07	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
EB-7-061720	2017619-07	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
EB-7-061720	2017619-07	Methyl iodide	6/19/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-7-061720	2017619-07	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-7-061720	2017619-07	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
EB-7-061720	2017619-07	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L
EB-7-061720	2017619-07	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L
EB-7-061720	2017619-07	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
EB-7-061720	2017619-07	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
EB-7-061720	2017619-07	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
EB-7-061720	2017619-07	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-7-061720	2017619-07	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-7-061720	2017619-07	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
EB-7-061720	2017619-07	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L
EB-7-061720	2017619-07	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
EB-7-061720	2017619-07	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L

SDG: 2017619

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-7-061720	2017619-07	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
EB-7-061720	2017619-07	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
EB-7-061720	2017619-07	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L
EB-7-061720	2017619-07	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L
EB-7-061720	2017619-07	Chloroform	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-061720	2017619-07	1,1-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-061720	2017619-07	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-061720	2017619-07	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-061720	2017619-07	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-7-061720	2017619-07	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-7-061720	2017619-07	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-7-061720	2017619-07	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
EB-7-061720	2017619-07	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-7-061720	2017619-07	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-7-061720	2017619-07	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-061720	2017619-07	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-061720	2017619-07	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-061720	2017619-07	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-061720	2017619-07	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-061720	2017619-07	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-061720	2017619-07	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-061720	2017619-07	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-7-061720	2017619-07	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-7-061720	2017619-07	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-061720	2017619-07	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L

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EB-7-061720	2017619-07	Bromodichloromethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-7-061720	2017619-07	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-7-061720	2017619-07	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-061720	2017619-07	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-7-061720	2017619-07	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-061720	2017619-07	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-061720	2017619-07	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-061720	2017619-07	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-061720	2017619-07	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-061720	2017619-07	Tetrachloroethene	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-7-061720	2017619-07	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-7-061720	2017619-07	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-061720	2017619-07	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-7-061720	2017619-07	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-7-061720	2017619-07	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-7-061720	2017619-07	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-7-061720	2017619-07	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-7-061720	2017619-07	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-7-061720	2017619-07	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-061720	2017619-07	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-7-061720	2017619-07	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-7-061720	2017619-07	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-061720	2017619-07	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-7-061720	2017619-07	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-7-061720	2017619-07	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L

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EB-7-061720	2017619-07	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-7-061720	2017619-07	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-7-061720	2017619-07	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-7-061720	2017619-07	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-7-061720	2017619-07	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-1	2017619-06	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-1	2017619-06	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L
MW-22-1	2017619-06	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
MW-22-1	2017619-06	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
MW-22-1	2017619-06	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L
MW-22-1	2017619-06	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-1	2017619-06	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-22-1	2017619-06	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
MW-22-1	2017619-06	Carbon disulfide	6/19/2020	1	Y	n	u		1.0	0.48	ug/L
MW-22-1	2017619-06	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
MW-22-1	2017619-06	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
MW-22-1	2017619-06	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L
MW-22-1	2017619-06	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-1	2017619-06	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
MW-22-1	2017619-06	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L
MW-22-1	2017619-06	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L
MW-22-1	2017619-06	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-1	2017619-06	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-1	2017619-06	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-1	2017619-06	Methyl iodide	6/19/2020	2	Y	n	u	UJ	2.0	1.1	ug/L

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MW-22-1	2017619-06	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-22-1	2017619-06	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-22-1	2017619-06	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L
MW-22-1	2017619-06	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
MW-22-1	2017619-06	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
MW-22-1	2017619-06	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L
MW-22-1	2017619-06	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
MW-22-1	2017619-06	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-1	2017619-06	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-22-1	2017619-06	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
MW-22-1	2017619-06	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
MW-22-1	2017619-06	Chloroform	6/19/2020	2.1	Y	y	v		0.50	0.14	ug/L
MW-22-1	2017619-06	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-1	2017619-06	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-1	2017619-06	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-1	2017619-06	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-1	2017619-06	1,1-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-1	2017619-06	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-1	2017619-06	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-1	2017619-06	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-1	2017619-06	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-1	2017619-06	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-1	2017619-06	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-1	2017619-06	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
MW-22-1	2017619-06	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-22-1	2017619-06	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-1	2017619-06	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-1	2017619-06	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-1	2017619-06	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-1	2017619-06	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-1	2017619-06	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-1	2017619-06	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-1	2017619-06	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-1	2017619-06	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-22-1	2017619-06	Bromodichloromethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-1	2017619-06	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-1	2017619-06	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L
MW-22-1	2017619-06	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-1	2017619-06	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-1	2017619-06	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-22-1	2017619-06	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-1	2017619-06	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-1	2017619-06	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-1	2017619-06	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-1	2017619-06	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-1	2017619-06	Tetrachloroethene	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-1	2017619-06	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-1	2017619-06	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-1	2017619-06	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-1	2017619-06	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L

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MW-22-1	2017619-06	Trichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-1	2017619-06	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-1	2017619-06	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-1	2017619-06	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
MW-22-1	2017619-06	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-1	2017619-06	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-1	2017619-06	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-1	2017619-06	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-1	2017619-06	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-1	2017619-06	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-1	2017619-06	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-1	2017619-06	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-1	2017619-06	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-1	2017619-06	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-1	2017619-06	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-1	2017619-06	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-1	2017619-06	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-2	2017619-05	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
MW-22-2	2017619-05	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
MW-22-2	2017619-05	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L
MW-22-2	2017619-05	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-2	2017619-05	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-2	2017619-05	Trichloroethene	6/19/2020	0.25	Y	y	v j		0.50	0.19	ug/L
MW-22-2	2017619-05	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-2	2017619-05	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-22-2	2017619-05	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-2	2017619-05	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L
MW-22-2	2017619-05	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
MW-22-2	2017619-05	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-2	2017619-05	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
MW-22-2	2017619-05	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-2	2017619-05	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L
MW-22-2	2017619-05	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-2	2017619-05	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-22-2	2017619-05	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-2	2017619-05	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L
MW-22-2	2017619-05	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
MW-22-2	2017619-05	Carbon disulfide	6/19/2020	1	Y	n	u		1.0	0.48	ug/L
MW-22-2	2017619-05	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-2	2017619-05	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-2	2017619-05	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-2	2017619-05	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
MW-22-2	2017619-05	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-2	2017619-05	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-2	2017619-05	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-2	2017619-05	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-2	2017619-05	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-2	2017619-05	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-2	2017619-05	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-2	2017619-05	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-22-2	2017619-05	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-2	2017619-05	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-2	2017619-05	Tetrachloroethene	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-2	2017619-05	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-2	2017619-05	Methyl iodide	6/19/2020	2	Y	n	u		2.0	1.1	ug/L
MW-22-2	2017619-05	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-2	2017619-05	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-2	2017619-05	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-2	2017619-05	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-2	2017619-05	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-2	2017619-05	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-2	2017619-05	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-2	2017619-05	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u		5.0	1.8	ug/L
MW-22-2	2017619-05	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-22-2	2017619-05	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-2	2017619-05	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-2	2017619-05	Chloroform	6/19/2020	0.25	Y	y	v j		0.50	0.14	ug/L
MW-22-2	2017619-05	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-2	2017619-05	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-2	2017619-05	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
MW-22-2	2017619-05	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-2	2017619-05	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-2	2017619-05	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-22-2	2017619-05	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-2	2017619-05	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-22-2	2017619-05	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-2	2017619-05	Bromodichloromethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-2	2017619-05	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-22-2	2017619-05	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-2	2017619-05	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-2	2017619-05	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-2	2017619-05	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-2	2017619-05	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
MW-22-2	2017619-05	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
MW-22-2	2017619-05	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
MW-22-2	2017619-05	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-22-2	2017619-05	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-2	2017619-05	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
MW-22-2	2017619-05	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L
MW-22-2	2017619-05	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
MW-22-2	2017619-05	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-2	2017619-05	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
MW-22-2	2017619-05	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-2	2017619-05	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-2	2017619-05	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-2	2017619-05	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-2	2017619-05	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-2	2017619-05	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-2	2017619-05	1,1-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-2	2017619-05	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-22-2	2017619-05	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-2	2017619-05	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L
MW-22-2	2017619-05	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L
MW-22-2	2017619-05	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L
MW-22-3	2017619-04	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-3	2017619-04	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-3	2017619-04	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-3	2017619-04	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-3	2017619-04	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-3	2017619-04	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-3	2017619-04	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-3	2017619-04	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-3	2017619-04	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
MW-22-3	2017619-04	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-3	2017619-04	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-22-3	2017619-04	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-3	2017619-04	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-3	2017619-04	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-3	2017619-04	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-3	2017619-04	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L

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MW-22-3	2017619-04	1,1-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-3	2017619-04	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
MW-22-3	2017619-04	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-3	2017619-04	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-3	2017619-04	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-3	2017619-04	Bromodichloromethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-3	2017619-04	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-3	2017619-04	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-3	2017619-04	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-3	2017619-04	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-3	2017619-04	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-3	2017619-04	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-3	2017619-04	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-3	2017619-04	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-3	2017619-04	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-3	2017619-04	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-3	2017619-04	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-3	2017619-04	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-3	2017619-04	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-3	2017619-04	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-3	2017619-04	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-3	2017619-04	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-3	2017619-04	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
MW-22-3	2017619-04	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-22-3	2017619-04	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-3	2017619-04	Chloroform	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
MW-22-3	2017619-04	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
MW-22-3	2017619-04	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L
MW-22-3	2017619-04	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
MW-22-3	2017619-04	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
MW-22-3	2017619-04	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L
MW-22-3	2017619-04	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-22-3	2017619-04	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-22-3	2017619-04	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
MW-22-3	2017619-04	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-22-3	2017619-04	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L
MW-22-3	2017619-04	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-22-3	2017619-04	Methyl iodide	6/19/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-22-3	2017619-04	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-3	2017619-04	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
MW-22-3	2017619-04	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L
MW-22-3	2017619-04	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L
MW-22-3	2017619-04	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
MW-22-3	2017619-04	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-3	2017619-04	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-22-3	2017619-04	Tetrachloroethene	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-3	2017619-04	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-3	2017619-04	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L

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MW-22-3	2017619-04	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-3	2017619-04	Carbon disulfide	6/19/2020	1	Y	n	u		1.0	0.48	ug/L
MW-22-3	2017619-04	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-3	2017619-04	Trichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-3	2017619-04	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-3	2017619-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-3	2017619-04	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-3	2017619-04	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-3	2017619-04	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-3	2017619-04	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L
MW-22-3	2017619-04	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L
MW-22-3	2017619-04	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
MW-22-3	2017619-04	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
MW-22-3	2017619-04	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-3	2017619-04	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
MW-22-4	2017619-03	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-22-4	2017619-03	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-4	2017619-03	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
MW-22-4	2017619-03	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L
MW-22-4	2017619-03	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
MW-22-4	2017619-03	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L
MW-22-4	2017619-03	Carbon disulfide	6/19/2020	1	Y	n	u		1.0	0.48	ug/L
MW-22-4	2017619-03	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
MW-22-4	2017619-03	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L

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MW-22-4	2017619-03	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-4	2017619-03	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
MW-22-4	2017619-03	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-4	2017619-03	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-4	2017619-03	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-4	2017619-03	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-4	2017619-03	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-4	2017619-03	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-4	2017619-03	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-4	2017619-03	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-4	2017619-03	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-4	2017619-03	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-4	2017619-03	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-4	2017619-03	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-4	2017619-03	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-4	2017619-03	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-4	2017619-03	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-4	2017619-03	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
MW-22-4	2017619-03	1,1-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-4	2017619-03	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-4	2017619-03	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-4	2017619-03	Methyl iodide	6/19/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-22-4	2017619-03	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-22-4	2017619-03	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-22-4	2017619-03	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L

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MW-22-4	2017619-03	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-4	2017619-03	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-4	2017619-03	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-4	2017619-03	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-22-4	2017619-03	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-22-4	2017619-03	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-4	2017619-03	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-4	2017619-03	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-4	2017619-03	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-4	2017619-03	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-4	2017619-03	Chloroform	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-4	2017619-03	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-4	2017619-03	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-4	2017619-03	Bromodichloromethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-4	2017619-03	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L
MW-22-4	2017619-03	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-4	2017619-03	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-4	2017619-03	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-4	2017619-03	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L
MW-22-4	2017619-03	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L
MW-22-4	2017619-03	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
MW-22-4	2017619-03	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-4	2017619-03	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-4	2017619-03	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
MW-22-4	2017619-03	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-22-4	2017619-03	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-22-4	2017619-03	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-4	2017619-03	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L
MW-22-4	2017619-03	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
MW-22-4	2017619-03	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
MW-22-4	2017619-03	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L
MW-22-4	2017619-03	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
MW-22-4	2017619-03	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
MW-22-4	2017619-03	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-4	2017619-03	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-4	2017619-03	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-4	2017619-03	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-4	2017619-03	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-4	2017619-03	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-4	2017619-03	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-4	2017619-03	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-4	2017619-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-4	2017619-03	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-4	2017619-03	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
MW-22-4	2017619-03	Tetrachloroethene	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-4	2017619-03	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-4	2017619-03	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-4	2017619-03	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-4	2017619-03	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-4	2017619-03	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L

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MW-22-4	2017619-03	Trichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-4	2017619-03	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
MW-22-4	2017619-03	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-S	2017619-02	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-S	2017619-02	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-S	2017619-02	1,1-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-S	2017619-02	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-S	2017619-02	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-S	2017619-02	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-S	2017619-02	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-S	2017619-02	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-S	2017619-02	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-S	2017619-02	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-S	2017619-02	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-S	2017619-02	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-S	2017619-02	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-S	2017619-02	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-S	2017619-02	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-22-S	2017619-02	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-S	2017619-02	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-22-S	2017619-02	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-S	2017619-02	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-22-S	2017619-02	Tetrachloroethene	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-S	2017619-02	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-S	2017619-02	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-S	2017619-02	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-22-S	2017619-02	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-S	2017619-02	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-S	2017619-02	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-22-S	2017619-02	Bromodichloromethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-S	2017619-02	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-22-S	2017619-02	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-S	2017619-02	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-S	2017619-02	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-S	2017619-02	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-S	2017619-02	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-S	2017619-02	Chloroform	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-22-S	2017619-02	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-22-S	2017619-02	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-S	2017619-02	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
MW-22-S	2017619-02	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-22-S	2017619-02	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-22-S	2017619-02	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L

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MW-22-S	2017619-02	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-S	2017619-02	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-22-S	2017619-02	Carbon disulfide	6/19/2020	0.71	Y	y	v j		1.0	0.48	ug/L
MW-22-S	2017619-02	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L
MW-22-S	2017619-02	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
MW-22-S	2017619-02	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-22-S	2017619-02	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
MW-22-S	2017619-02	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L
MW-22-S	2017619-02	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L
MW-22-S	2017619-02	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
MW-22-S	2017619-02	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
MW-22-S	2017619-02	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
MW-22-S	2017619-02	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L
MW-22-S	2017619-02	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-22-S	2017619-02	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-22-S	2017619-02	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
MW-22-S	2017619-02	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
MW-22-S	2017619-02	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
MW-22-S	2017619-02	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L
MW-22-S	2017619-02	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
MW-22-S	2017619-02	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
MW-22-S	2017619-02	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L
MW-22-S	2017619-02	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-S	2017619-02	Methyl iodide	6/19/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-22-S	2017619-02	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L

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MW-22-S	2017619-02	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-22-S	2017619-02	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-22-S	2017619-02	Trichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-S	2017619-02	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
MW-22-S	2017619-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-S	2017619-02	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-22-S	2017619-02	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-22-S	2017619-02	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-22-S	2017619-02	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L
MW-22-S	2017619-02	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-22-S	2017619-02	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
MW-22-S	2017619-02	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-22-S	2017619-02	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L
MW-22-S	2017619-02	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-1	2017619-10	Tetrachloroethene	6/20/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-24-1	2017619-10	Methyl ethyl ketone	6/20/2020	10	Y	n	u		10	3.3	ug/L
MW-24-1	2017619-10	Methyl isobutyl ketone	6/20/2020	10	Y	n	u		10	2.4	ug/L
MW-24-1	2017619-10	Methyl methacrylate	6/20/2020	5	Y	n	u		5.0	1.2	ug/L
MW-24-1	2017619-10	Propionitrile	6/20/2020	20	Y	n	u		20	6.2	ug/L
MW-24-1	2017619-10	Tetrahydrofuran	6/20/2020	20	Y	n	u		20	5.2	ug/L
MW-24-1	2017619-10	p- & m-Xylenes	6/20/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-24-1	2017619-10	Pentachloroethane	6/20/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-24-1	2017619-10	1,1,1,2-Tetrachloroethane	6/20/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-1	2017619-10	o-Xylene	6/20/2020	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-24-1	2017619-10	1,2,3-Trichlorobenzene	6/20/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-1	2017619-10	1,2,4-Trichlorobenzene	6/20/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-1	2017619-10	Methacrylonitrile	6/20/2020	10	Y	n	u		10	2.3	ug/L
MW-24-1	2017619-10	1-Chlorobutane	6/20/2020	0	Y	y	v				ug/L
MW-24-1	2017619-10	t-Butyl alcohol	6/20/2020	10	Y	n	u		10	9.4	ug/L
MW-24-1	2017619-10	Trichloroethene	6/20/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-1	2017619-10	Chloroacetonitrile	6/20/2020	0	Y	y	v				ug/L
MW-24-1	2017619-10	1,1,2-Trichloroethane	6/20/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-1	2017619-10	1,1,1-Trichloroethane	6/20/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-1	2017619-10	Styrene	6/20/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-24-1	2017619-10	1,1,2,2-Tetrachloroethane	6/20/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-1	2017619-10	n-Propylbenzene	6/20/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-24-1	2017619-10	1,2,3-Trichloropropane	6/20/2020	1	Y	n	u		1.0	0.78	ug/L
MW-24-1	2017619-10	1,1,2-Trichloro-1,2,2-trifluoroethane	6/20/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-1	2017619-10	1,2,4-Trimethylbenzene	6/20/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-1	2017619-10	1,3,5-Trimethylbenzene	6/20/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-1	2017619-10	Vinyl chloride	6/20/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-1	2017619-10	Acetone	6/20/2020	10	Y	n	u		10	6.6	ug/L
MW-24-1	2017619-10	Acrylonitrile	6/20/2020	5	Y	n	u		5.0	1.5	ug/L
MW-24-1	2017619-10	trans-1,4-Dichloro-2-butene	6/20/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-24-1	2017619-10	Trichlorofluoromethane	6/20/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-1	2017619-10	2-Hexanone	6/20/2020	10	Y	n	u		10	5.0	ug/L
MW-24-1	2017619-10	Benzene	6/20/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-1	2017619-10	t-Amyl Methyl ether	6/20/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-1	2017619-10	Carbon disulfide	6/20/2020	1	Y	n	u		1.0	0.48	ug/L

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MW-24-1	2017619-10	Bromomethane	6/20/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-24-1	2017619-10	Diethyl ether	6/20/2020	2	Y	n	u		2.0	0.33	ug/L
MW-24-1	2017619-10	Ethyl methacrylate	6/20/2020	4	Y	n	u		4.0	1.3	ug/L
MW-24-1	2017619-10	Ethyl t-butyl ether	6/20/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-24-1	2017619-10	Hexachloroethane	6/20/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-1	2017619-10	Allyl chloride	6/20/2020	5	Y	n	u		5.0	0.47	ug/L
MW-24-1	2017619-10	Isopropylbenzene	6/20/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-1	2017619-10	1,1-Dichloroethene	6/20/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-1	2017619-10	cis-1,2-Dichloroethene	6/20/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-1	2017619-10	trans-1,2-Dichloroethene	6/20/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-1	2017619-10	1,2-Dichloropropane	6/20/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-1	2017619-10	1,3-Dichloropropane	6/20/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-1	2017619-10	2,2-Dichloropropane	6/20/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-1	2017619-10	1,1-Dichloropropene	6/20/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-1	2017619-10	cis-1,3-Dichloropropene	6/20/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-1	2017619-10	Ethylbenzene	6/20/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-1	2017619-10	1,2-Dichloroethane	6/20/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-1	2017619-10	Hexachlorobutadiene	6/20/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-24-1	2017619-10	trans-1,3-Dichloropropene	6/20/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-1	2017619-10	p-Isopropyltoluene	6/20/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-1	2017619-10	Methylene chloride	6/20/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-1	2017619-10	Methyl t-butyl ether	6/20/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-1	2017619-10	2-Nitropropane	6/20/2020	0	Y	y	v				ug/L
MW-24-1	2017619-10	Nitrobenzene	6/20/2020	0	Y	y	v				ug/L
MW-24-1	2017619-10	Methyl acrylate	6/20/2020	0	Y	y	v				ug/L

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MW-24-1	2017619-10	1,1-Dichloropropanone	6/20/2020	0	Y	y	v				ug/L
MW-24-1	2017619-10	Methyl iodide	6/20/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-24-1	2017619-10	Toluene	6/20/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-1	2017619-10	Naphthalene	6/20/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-24-1	2017619-10	Chlorobenzene	6/20/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-1	2017619-10	Bromodichloromethane	6/20/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-24-1	2017619-10	Bromochloromethane	6/20/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-1	2017619-10	1,1-Dichloroethane	6/20/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-1	2017619-10	Bromobenzene	6/20/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-1	2017619-10	Bromoform	6/20/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-24-1	2017619-10	n-Butylbenzene	6/20/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-1	2017619-10	sec-Butylbenzene	6/20/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-1	2017619-10	Carbon tetrachloride	6/20/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-1	2017619-10	Chloroethane	6/20/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-1	2017619-10	Chloroform	6/20/2020	4.1	Y	y	v		0.50	0.14	ug/L
MW-24-1	2017619-10	Chloromethane	6/20/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-1	2017619-10	1,2-Dichlorobenzene	6/20/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-1	2017619-10	Dichlorodifluoromethane	6/20/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-1	2017619-10	tert-Butylbenzene	6/20/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-1	2017619-10	1,3-Dichlorobenzene	6/20/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-24-1	2017619-10	2-Chlorotoluene	6/20/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-1	2017619-10	Dibromomethane	6/20/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-24-1	2017619-10	1,2-Dibromoethane	6/20/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-24-1	2017619-10	1,2-Dibromo-3-chloropropane	6/20/2020	1	Y	n	u		1.0	0.89	ug/L
MW-24-1	2017619-10	Dibromochloromethane	6/20/2020	0.5	Y	n	u		0.50	0.22	ug/L

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MW-24-1	2017619-10	4-Chlorotoluene	6/20/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-24-1	2017619-10	1,4-Dichlorobenzene	6/20/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-2	2017619-09	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L
MW-24-2	2017619-09	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L
MW-24-2	2017619-09	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L
MW-24-2	2017619-09	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
MW-24-2	2017619-09	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-24-2	2017619-09	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
MW-24-2	2017619-09	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-2	2017619-09	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L
MW-24-2	2017619-09	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
MW-24-2	2017619-09	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
MW-24-2	2017619-09	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
MW-24-2	2017619-09	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
MW-24-2	2017619-09	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
MW-24-2	2017619-09	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-24-2	2017619-09	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-2	2017619-09	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
MW-24-2	2017619-09	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L
MW-24-2	2017619-09	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
MW-24-2	2017619-09	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-24-2	2017619-09	Methyl iodide	6/19/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-24-2	2017619-09	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
MW-24-2	2017619-09	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-2	2017619-09	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L

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MW-24-2	2017619-09	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-2	2017619-09	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-2	2017619-09	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-2	2017619-09	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-2	2017619-09	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-24-2	2017619-09	Bromodichloromethane	6/19/2020	0.35	Y	y	v j		0.50	0.20	ug/L
MW-24-2	2017619-09	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-24-2	2017619-09	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-2	2017619-09	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-2	2017619-09	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-24-2	2017619-09	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-2	2017619-09	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-2	2017619-09	Carbon disulfide	6/19/2020	1	Y	n	u		1.0	0.48	ug/L
MW-24-2	2017619-09	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-2	2017619-09	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
MW-24-2	2017619-09	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-2	2017619-09	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-2	2017619-09	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-2	2017619-09	1,1-Dichloroethane	6/19/2020	0.31	Y	y	v j		0.50	0.15	ug/L
MW-24-2	2017619-09	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-2	2017619-09	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-2	2017619-09	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-2	2017619-09	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-24-2	2017619-09	Chloroform	6/19/2020	0.89	Y	y	v		0.50	0.14	ug/L
MW-24-2	2017619-09	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L

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MW-24-2	2017619-09	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-2	2017619-09	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-24-2	2017619-09	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-24-2	2017619-09	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
MW-24-2	2017619-09	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-24-2	2017619-09	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-2	2017619-09	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-2	2017619-09	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
MW-24-2	2017619-09	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-2	2017619-09	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-2	2017619-09	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-24-2	2017619-09	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-2	2017619-09	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-2	2017619-09	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-2	2017619-09	Tetrachloroethene	6/19/2020	0.28	Y	y	v j		0.50	0.23	ug/L
MW-24-2	2017619-09	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-2	2017619-09	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-2	2017619-09	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-2	2017619-09	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-2	2017619-09	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-2	2017619-09	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-2	2017619-09	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L
MW-24-2	2017619-09	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L
MW-24-2	2017619-09	Trichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-2	2017619-09	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-24-2	2017619-09	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-2	2017619-09	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-2	2017619-09	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-2	2017619-09	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-2	2017619-09	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-2	2017619-09	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-24-2	2017619-09	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-2	2017619-09	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-2	2017619-09	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-2	2017619-09	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-2	2017619-09	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-24-2	2017619-09	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-24-2	2017619-09	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-24-2	2017619-09	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-5	2017619-08	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-24-5	2017619-08	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-5	2017619-08	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-5	2017619-08	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-5	2017619-08	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-24-5	2017619-08	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-5	2017619-08	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
MW-24-5	2017619-08	Carbon disulfide	6/19/2020	1	Y	n	u		1.0	0.48	ug/L
MW-24-5	2017619-08	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-5	2017619-08	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
MW-24-5	2017619-08	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L

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MW-24-5	2017619-08	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L
MW-24-5	2017619-08	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-5	2017619-08	Tetrachloroethene	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-24-5	2017619-08	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-5	2017619-08	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L
MW-24-5	2017619-08	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
MW-24-5	2017619-08	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-5	2017619-08	Trichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-5	2017619-08	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-5	2017619-08	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-5	2017619-08	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-5	2017619-08	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-5	2017619-08	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-5	2017619-08	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-5	2017619-08	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
MW-24-5	2017619-08	Chloroform	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-5	2017619-08	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-5	2017619-08	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
MW-24-5	2017619-08	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
MW-24-5	2017619-08	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
MW-24-5	2017619-08	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-24-5	2017619-08	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-5	2017619-08	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
MW-24-5	2017619-08	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-24-5	2017619-08	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L

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MW-24-5	2017619-08	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-5	2017619-08	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L
MW-24-5	2017619-08	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L
MW-24-5	2017619-08	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
MW-24-5	2017619-08	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
MW-24-5	2017619-08	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L
MW-24-5	2017619-08	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
MW-24-5	2017619-08	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
MW-24-5	2017619-08	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
MW-24-5	2017619-08	Methyl iodide	6/19/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-24-5	2017619-08	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-24-5	2017619-08	1,1-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-5	2017619-08	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-5	2017619-08	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-5	2017619-08	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-24-5	2017619-08	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-5	2017619-08	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-24-5	2017619-08	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-24-5	2017619-08	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
MW-24-5	2017619-08	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-5	2017619-08	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-24-5	2017619-08	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-5	2017619-08	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-5	2017619-08	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-5	2017619-08	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L

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MW-24-5	2017619-08	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-5	2017619-08	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-5	2017619-08	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-5	2017619-08	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-24-5	2017619-08	Bromodichloromethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-24-5	2017619-08	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-24-5	2017619-08	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-5	2017619-08	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-24-5	2017619-08	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-24-5	2017619-08	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-5	2017619-08	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-24-5	2017619-08	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-24-5	2017619-08	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-5	2017619-08	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-24-5	2017619-08	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-5	2017619-08	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-24-5	2017619-08	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-5	2017619-08	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-5	2017619-08	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-24-5	2017619-08	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-24-5	2017619-08	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-24-5	2017619-08	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-24-5	2017619-08	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-24-5	2017619-08	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-24-5	2017619-08	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-24-5	2017619-08	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-061720	2017619-01	Dichlorodifluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-061720	2017619-01	4-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-7-061720	2017619-01	Dibromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-7-061720	2017619-01	1,2-Dibromo-3-chloropropane	6/19/2020	1	Y	n	u		1.0	0.89	ug/L
TB-7-061720	2017619-01	1,2-Dibromoethane	6/19/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-7-061720	2017619-01	Dibromomethane	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-7-061720	2017619-01	1,2-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-061720	2017619-01	2,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-7-061720	2017619-01	1,3-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-7-061720	2017619-01	1,3-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-7-061720	2017619-01	1,1-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-061720	2017619-01	1,2-Dichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-061720	2017619-01	1,2-Dichloropropane	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-061720	2017619-01	trans-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-061720	2017619-01	Bromoform	6/19/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-7-061720	2017619-01	cis-1,2-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-7-061720	2017619-01	1,1-Dichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-7-061720	2017619-01	1,4-Dichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-061720	2017619-01	Bromodichloromethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-7-061720	2017619-01	1,1-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-061720	2017619-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-061720	2017619-01	Methyl iodide	6/19/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-7-061720	2017619-01	trans-1,4-Dichloro-2-butene	6/19/2020	5	Y	n	u	UJ	5.0	1.8	ug/L
TB-7-061720	2017619-01	Pentachloroethane	6/19/2020	2	Y	n	u	UJ	2.0	0.63	ug/L

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TB-7-061720	2017619-01	Bromomethane	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-7-061720	2017619-01	Benzene	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-7-061720	2017619-01	sec-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-7-061720	2017619-01	Bromochloromethane	6/19/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-7-061720	2017619-01	2-Chlorotoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	n-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-061720	2017619-01	tert-Butylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-7-061720	2017619-01	Carbon tetrachloride	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-061720	2017619-01	Chlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	Chloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-061720	2017619-01	Chloroform	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	Chloromethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-7-061720	2017619-01	Bromobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-061720	2017619-01	cis-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	Allyl chloride	6/19/2020	5	Y	n	u		5.0	0.47	ug/L
TB-7-061720	2017619-01	t-Amyl Methyl ether	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-061720	2017619-01	t-Butyl alcohol	6/19/2020	10	Y	n	u		10	9.4	ug/L
TB-7-061720	2017619-01	Carbon disulfide	6/19/2020	1	Y	n	u		1.0	0.48	ug/L
TB-7-061720	2017619-01	Diethyl ether	6/19/2020	2	Y	n	u		2.0	0.33	ug/L
TB-7-061720	2017619-01	Ethyl methacrylate	6/19/2020	4	Y	n	u		4.0	1.3	ug/L
TB-7-061720	2017619-01	Ethyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-7-061720	2017619-01	Hexachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-7-061720	2017619-01	2-Hexanone	6/19/2020	10	Y	n	u		10	5.0	ug/L
TB-7-061720	2017619-01	Methacrylonitrile	6/19/2020	10	Y	n	u		10	2.3	ug/L
TB-7-061720	2017619-01	Acrylonitrile	6/19/2020	5	Y	n	u		5.0	1.5	ug/L

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TB-7-061720	2017619-01	Methyl isobutyl ketone	6/19/2020	10	Y	n	u		10	2.4	ug/L
TB-7-061720	2017619-01	Methyl methacrylate	6/19/2020	5	Y	n	u		5.0	1.2	ug/L
TB-7-061720	2017619-01	Propionitrile	6/19/2020	20	Y	n	u		20	6.2	ug/L
TB-7-061720	2017619-01	Trichlorofluoromethane	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	p- & m-Xylenes	6/19/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-7-061720	2017619-01	o-Xylene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-7-061720	2017619-01	Chloroacetonitrile	6/19/2020	0	Y	y	v				ug/L
TB-7-061720	2017619-01	1-Chlorobutane	6/19/2020	0	Y	y	v				ug/L
TB-7-061720	2017619-01	1,1-Dichloropropanone	6/19/2020	0	Y	y	v				ug/L
TB-7-061720	2017619-01	Methyl acrylate	6/19/2020	0	Y	y	v				ug/L
TB-7-061720	2017619-01	Nitrobenzene	6/19/2020	0	Y	y	v				ug/L
TB-7-061720	2017619-01	2-Nitropropane	6/19/2020	0	Y	y	v				ug/L
TB-7-061720	2017619-01	Methyl ethyl ketone	6/19/2020	10	Y	n	u		10	3.3	ug/L
TB-7-061720	2017619-01	trans-1,3-Dichloropropene	6/19/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-7-061720	2017619-01	Hexachlorobutadiene	6/19/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-7-061720	2017619-01	Isopropylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	p-Isopropyltoluene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	Tetrahydrofuran	6/19/2020	20	Y	n	u		20	5.2	ug/L
TB-7-061720	2017619-01	Acetone	6/19/2020	10	Y	n	u		10	6.6	ug/L
TB-7-061720	2017619-01	Ethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-7-061720	2017619-01	Methylene chloride	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-061720	2017619-01	Methyl t-butyl ether	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	Naphthalene	6/19/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-7-061720	2017619-01	n-Propylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-7-061720	2017619-01	Styrene	6/19/2020	0.5	Y	n	u		0.50	0.12	ug/L

SDG: 2017619

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-7-061720	2017619-01	1,1,1,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-061720	2017619-01	Trichloroethene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-061720	2017619-01	Vinyl chloride	6/19/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-7-061720	2017619-01	1,3,5-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-7-061720	2017619-01	1,2,4-Trimethylbenzene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-061720	2017619-01	1,1,2,2-Tetrachloroethane	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-061720	2017619-01	1,2,3-Trichloropropane	6/19/2020	1	Y	n	u		1.0	0.78	ug/L
TB-7-061720	2017619-01	1,1,2-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-061720	2017619-01	Tetrachloroethene	6/19/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-7-061720	2017619-01	Toluene	6/19/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-7-061720	2017619-01	1,2,3-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-7-061720	2017619-01	1,1,1-Trichloroethane	6/19/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-7-061720	2017619-01	1,2,4-Trichlorobenzene	6/19/2020	0.5	Y	n	u		0.50	0.15	ug/L

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-24-1	2017619-10	1,4-Dioxane	6/25/2020	1	Y	n	u		1.0	0.16	ug/L

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-7-061720	2017619-07	Carbonate	6/23/2020	2.5	Y	n	u		2.5	2.5	mg/L
EB-7-061720	2017619-07	Bicarbonate	6/23/2020	5	Y	n	u		5.0	5.0	mg/L
EB-7-061720	2017619-07	Total Alkalinity as CaCO3	6/23/2020	4.1	Y	n	u		4.1	4.1	mg/L
MW-22-1	2017619-06	Bicarbonate	6/23/2020	270	Y	y	v		5.0	5.0	mg/L
MW-22-1	2017619-06	Carbonate	6/23/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-22-1	2017619-06	Total Alkalinity as CaCO3	6/23/2020	220	Y	y	v		4.1	4.1	mg/L

SDG: 2017619

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-22-2	2017619-05	Bicarbonate	6/23/2020	230	Y	y	v		5.0	5.0	mg/L
MW-22-2	2017619-05	Carbonate	6/23/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-22-2	2017619-05	Total Alkalinity as CaCO3	6/23/2020	190	Y	y	v		4.1	4.1	mg/L
MW-22-3	2017619-04	Bicarbonate	6/23/2020	170	Y	y	v		5.0	5.0	mg/L
MW-22-3	2017619-04	Total Alkalinity as CaCO3	6/23/2020	140	Y	y	v		4.1	4.1	mg/L
MW-22-3	2017619-04	Carbonate	6/23/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-22-4	2017619-03	Bicarbonate	6/23/2020	170	Y	y	v		5.0	5.0	mg/L
MW-22-4	2017619-03	Total Alkalinity as CaCO3	6/23/2020	140	Y	y	v		4.1	4.1	mg/L
MW-22-4	2017619-03	Carbonate	6/23/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-22-S	2017619-02	Total Alkalinity as CaCO3	6/23/2020	95	Y	y	v		4.1	4.1	mg/L
MW-22-S	2017619-02	Bicarbonate	6/23/2020	76	Y	y	v		5.0	5.0	mg/L
MW-22-S	2017619-02	Carbonate	6/23/2020	20	Y	y	v		2.5	2.5	mg/L
MW-24-1	2017619-10	Total Alkalinity as CaCO3	6/23/2020	180	Y	y	v		4.1	4.1	mg/L
MW-24-1	2017619-10	Carbonate	6/23/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-24-1	2017619-10	Bicarbonate	6/23/2020	220	Y	y	v		5.0	5.0	mg/L
MW-24-2	2017619-09	Total Alkalinity as CaCO3	6/23/2020	170	Y	y	v		4.1	4.1	mg/L
MW-24-2	2017619-09	Carbonate	6/23/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-24-2	2017619-09	Bicarbonate	6/23/2020	210	Y	y	v		5.0	5.0	mg/L
MW-24-5	2017619-08	Total Alkalinity as CaCO3	6/23/2020	170	Y	y	v		4.1	4.1	mg/L
MW-24-5	2017619-08	Carbonate	6/23/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-24-5	2017619-08	Bicarbonate	6/23/2020	210	Y	y	v		5.0	5.0	mg/L

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 14, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017925

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-10-062220	2017925-01	Water	06/22/20
MW-11-5	2017925-02	Water	06/22/20
MW-11-4	2017925-03	Water	06/22/20
MW-11-3	2017925-04	Water	06/22/20
Dup-5-2Q2020	2017925-05	Water	06/22/20
MW-11-2	2017925-06	Water	06/22/20
MW-11-1	2017925-07	Water	06/22/20
EB-10-062220	2017925-08	Water	06/22/20
MW-14-5	2017925-09	Water	06/22/20
MW-14-4	2017925-10	Water	06/22/20
MW-14-2	2017925-11	Water	06/22/20

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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/18/20	Pentachloroethane	76.0	All samples in SDG 2017925	UJ (all non-detects)	P

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
06/23/20 (23JUN31)	Bromomethane	38.7	All samples in SDG 2017925	UJ (all non-detects)	P

Date	Compound	%D	Associated Samples	Flag	A or P
06/23/20 (22JUN32)	Methyl iodide Pentachloroethane	80.7 91.4	All samples in SDG 2017925	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-10-062220 was identified as a trip blank. No contaminants were found.

Sample EB-10-062220 was identified as an equipment 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

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-11-3 and Dup-5-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	MW-11-3	Dup-5-2Q2020	
Methyl-tert-butyl ether	0.19	0.14U	Not calculable
Styrene	0.16	0.21	27

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 ICV %D and 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, 2Q2020
Volatiles - Data Qualification Summary - SDG 2017925

Sample	Compound	Flag	A or P	Reason
TB-10-062220 MW-11-5 MW-11-4 MW-11-3 Dup-5-2Q2020 MW-11-2 MW-11-1 EB-10-062220 MW-14-5 MW-14-4 MW-14-2	Pentachloroethane	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-10-062220 MW-11-5 MW-11-4 MW-11-3 Dup-5-2Q2020 MW-11-2 MW-11-1 EB-10-062220 MW-14-5 MW-14-4 MW-14-2	Bromomethane Methyl iodide Pentachloroethane	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2017925

No Sample Data Qualified in this SDG

LDC #: 48752B1a

SDG #: 2017925

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/17/20

Page: 1 of 1

Reviewer: Q

2nd Reviewer: TT

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/SW	RSD ≤ 20%. r^2 ICV ≤ 30%
IV.	Continuing calibration	SW	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=8
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D=4+5
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-10-062220	2017925-01	Water	06/22/20
2	MW-11-5	2017925-02	Water	06/22/20
3	MW-11-4	2017925-03	Water	06/22/20
4 1	MW-11-3	2017925-04	Water	06/22/20
5	Dup-5-2Q2020	2017925-05	Water	06/22/20
6	MW-11-2	2017925-06	Water	06/22/20
7	MW-11-1	2017925-07	Water	06/22/20
8	EB-10-062220	2017925-08	Water	06/22/20
9	MW-14-5	2017925-09	Water	06/22/20
10	MW-14-4	2017925-10	Water	06/22/20
11 2	MW-14-2	2017925-11	Water	06/22/20
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. 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.

LDC #: 48752B1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: PG
2nd Reviewer: TT

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/18/20	18JUN28	ZZZZ	76.0	All (ND)	J/UJ/P

LDC #: 48752B1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer:
2nd Reviewer: FZ

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/22/20	22JUN02	B	38.9	BLK	J/UJ/P
	6/22/20	22JUN03	Methyl iodide	89.9		
	6/22/20	22JUN31	B	60.7	BLK	J/UJ/P
	6/22/20	22JUN32	Methyl iodide	79.3		
			ZZZZ	96.4		
	6/23/20	23JUN31	B	38.7	All (ND)	J/UJ/P
	6/23/20	22JUN32	Methyl iodide	80.7		
			ZZZZ	91.4		

LDC#:48752B1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: 1
2nd Reviewer: [illegible]

METHOD: GCMS VOA (EPA Method 524.2)

Compound	Concentration (ug/L)		RPD
	4	5	
LL	0.19	0.14U	NC
FF	0.16	0.21	27

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2020\48752B1_JPL.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 18, 2020

Parameters: Metals

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017925

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-11-5	2017925-02	Water	06/22/20
MW-11-4	2017925-03	Water	06/22/20
MW-11-3	2017925-04	Water	06/22/20
Dup-5-2Q2020	2017925-05	Water	06/22/20
MW-11-2	2017925-06	Water	06/22/20
MW-11-1	2017925-07	Water	06/22/20
EB-10-062220	2017925-08	Water	06/22/20
MW-14-5	2017925-09	Water	06/22/20
MW-14-4	2017925-10	Water	06/22/20
MW-14-2	2017925-11	Water	06/22/20
MW-11-5MS	2017925-02MS	Water	06/22/20
MW-11-5MSD	2017925-02MSD	Water	06/22/20
MW-11-5DUP	2017925-02DUP	Water	06/22/20
EB-10-062220MS	2017925-08MS	Water	06/22/20
EB-10-062220MSD	2017925-08MSD	Water	06/22/20
EB-10-062220DUP	2017925-08DUP	Water	06/22/20

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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. Laboratory Blanks

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

VI. Field Blanks

Sample EB-10-062220 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-10-062220	Calcium Sodium	0.089 mg/L 0.18 mg/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 with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
MW-11-5MS/MSD (MW-11-5 MW-11-4 MW-11-3 Dup-5-2Q2020 MW-11-2 MW-11-1 MW-14-5 MW-14-4 MW-14-2)	Iron	131 (75-125)	-	J (all detects)	A
MW-11-5MS/MSD (EB-10-062220)	Iron	131 (75-125)	-	NA	-

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 methods. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

Samples MW-11-3 and Dup-5-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-11-3	Dup-5-2Q2020	
Arsenic	1.7 ug/L	1.6 ug/L	6
Calcium	20 mg/L	21 mg/L	5
Chromium	6.7 ug/L	0.5U ug/L	Not calculable
Iron	1100 ug/L	95 ug/L	168
Lead	0.22 ug/L	0.1U ug/L	75

Analyte	Concentration		RPD
	MW-11-3	Dup-5-2Q2020	
Magnesium	7.8 mg/L	8.0 mg/L	3
Potassium	1.9 mg/L	2.0 mg/L	5
Sodium	27 mg/L	27 mg/L	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 methods. No results were rejected in this SDG.

Due to MS/MSD %R, data were qualified as estimated in nine samples.

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2017925

Sample	Analyte	Flag	A or P	Reason
MW-11-5 MW-11-4 MW-11-3 Dup-5-2Q2020 MW-11-2 MW-11-1 MW-14-5 MW-14-4 MW-14-2	Iron	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2017925

No Sample Data Qualified in this SDG

LDC #: 48752B4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2017925 Level III Page: 1 of 2
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer: 4

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	A	
VI.	Field Blanks	SW	EB=7
VII.	Matrix Spike/Matrix Spike Duplicates	SW	(11,12), (14,15)
VIII.	Duplicate sample analysis	A	13,16
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(3,4)
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
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

	Client ID	Lab ID	Matrix	Date
1	MW-11-5	2017925-02	Water	06/22/20
2	MW-11-4	2017925-03	Water	06/22/20
3	MW-11-3	2017925-04	Water	06/22/20
4	Dup-5-2Q2020	2017925-05	Water	06/22/20
5	MW-11-2	2017925-06	Water	06/22/20
6	MW-11-1	2017925-07	Water	06/22/20
7	EB-10-062220	2017925-08	Water	06/22/20
8	MW-14-5	2017925-09	Water	06/22/20
9	MW-14-4	2017925-10	Water	06/22/20
10	MW-14-2	2017925-11	Water	06/22/20
11	MW-11-5MS	2017925-02MS	Water	06/22/20
12	MW-11-5MSD	2017925-02MSD	Water	06/22/20
13	MW-11-5DUP	2017925-02DUP	Water	06/22/20
14	EB-10-062220MS	2017925-08MS	Water	06/22/20
15	EB-10-062220MSD	2017925-08MSD	Water	06/22/20

LDC #: 48752B4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2017925 Level III Page: 2 of 2
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

	Client ID	Lab ID	Matrix	Date
16	EB-10-062220DUP	2017925-08DUP	Water	06/22/20
17				
18				
19				

Notes:

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 10	Fe, As,Cr,Pb,Ca,Mg,Na,K
QC	
11,12,13	Fe,Ca,Mg,Na,K
14,15,16	As,Cr,Pb

Analysis Method

ICP	Fe,Ca,Mg,Na,K
ICP-MS	As,Cr,Pb
CVAA	

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: ATL

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

Blank units: ug/L, mg/L
Associated sample units: ug/L, mg/L
Sampling Date: 6/22/20
Associated Samples: none

			Sample Identification									
Analyte	Blank ID	Blank Conc	Action Level									
Ca (mg/L)		0.089										
Na (mg/L)		0.18										

Comments: The action level, when applicable, is estabilised at 5X the highest concentration.

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

MS/MSD analysis was performed by the laboratory. All MS/MSD percent recoveries (%R) and relative percent differences (RPDs) were within the acceptable limits with the following exceptions:

MS/MSD ID	Matrix	Analyte	MS %R	MSD %R	%R Limit	RPD	RPD Limit	Associated Samples	Qualification	Det/ND
11 & 12	W	Fe	131		75-125			all	Jdet/A	ND=7

Comments: 10/11: Ca > 4X

Method: Metals

Analyte	Concentration (mg/L)		RPD	Qualifiers (Parents Only)
	3	4		
Arsenic (ug/L)	1.7	1.6	6	
Calcium	20	21	5	
Chromium (ug/L)	6.7	0.5U	~~172~~ NC	
Iron (ug/L)	1100	95	168	
Lead (ug/L)	0.22	0.1U	75	
Magnesium	7.8	8.0	3	
Potassium	1.9	2.0	5	
Sodium	27	27	0	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 19, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2017925

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-11-5	2017925-02	Water	06/22/20
MW-11-4	2017925-03	Water	06/22/20
MW-11-3	2017925-04	Water	06/22/20
Dup-5-2Q2020	2017925-05	Water	06/22/20
MW-11-2	2017925-06	Water	06/22/20
MW-11-1	2017925-07	Water	06/22/20
EB-10-062220	2017925-08	Water	06/22/20
MW-14-5	2017925-09	Water	06/22/20
MW-14-4	2017925-10	Water	06/22/20
MW-14-2	2017925-11	Water	06/22/20
MW-11-5MS	2017925-02MS	Water	06/22/20
MW-11-5MSD	2017925-02MSD	Water	06/22/20
MW-11-5DUP	2017925-02DUP	Water	06/22/20
MW-11-1MS	2017925-07MS	Water	06/22/20
MW-11-1MSD	2017925-07MSD	Water	06/22/20
MW-11-1DUP	2017925-07DUP	Water	06/22/20
MW-14-2DUP	2017925-11DUP	Water	06/22/20

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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Orthophosphate as Phosphorus by EPA Method 365.1
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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-11-5	pH	54.333 hours	48 hours	J (all detects)	P
MW-11-4	pH	55.300 hours	48 hours	J (all detects)	P
MW-11-3	pH	53.683 hours	48 hours	J (all detects)	P
Dup-5-2Q2020	pH	53.567 hours	48 hours	J (all detects)	P
MW-11-2	pH	52.933 hours	48 hours	J (all detects)	P
MW-11-1	pH	52.317 hours	48 hours	J (all detects)	P
EB-10-062220	pH	50.433 hours	48 hours	J (all detects)	P
MW-14-5	pH	51.300 hours	48 hours	J (all detects)	P
MW-14-4	pH	50.933 hours	48 hours	J (all detects)	P
MW-14-2	pH	50.317 hours	48 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)	Chloride Hexavalent chromium	0.139 mg/L 0.000033 mg/L	All samples in SDG 2017925
ICB/CCB	Chloride Sulfate	0.193 mg/L 0.365 mg/L	All samples in SDG 2017925
ICB/CCB	Hexavalent chromium	0.000052 mg/L	MW-11-5 MW-11-4 MW-11-3 Dup-5-2Q2020
ICB/CCB	Hexavalent chromium	0.000068 mg/L	MW-11-2 MW-11-1 EB-10-062220 MW-14-5 MW-14-4 MW-14-2

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-11-5	Hexavalent chromium	0.000068 mg/L	0.000068U mg/L
MW-11-4	Hexavalent chromium	0.00006 mg/L	0.00006U mg/L
MW-11-3	Hexavalent chromium	0.00009 mg/L	0.00009U mg/L
Dup-5-2Q2020	Hexavalent chromium	0.000041 mg/L	0.000041U mg/L
MW-11-2	Hexavalent chromium	0.000047 mg/L	0.000047U mg/L
MW-11-1	Hexavalent chromium	0.000053 mg/L	0.000053U mg/L
EB-10-062220	Hexavalent chromium	0.000059 mg/L	0.000059U mg/L
MW-14-5	Hexavalent chromium	0.00004 mg/L	0.00004U mg/L
MW-14-2	Hexavalent chromium	0.00011 mg/L	0.00011U mg/L

V. Field Blanks

Sample EB-10-062220 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-10-062220	Total dissolved solids Hexavalent chromium	5.3 mg/L 0.000059 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-11-3 and Dup-5-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-11-3	Dup-5-2Q2020	
Alkalinity, bicarbonate	130 mg/L	130 mg/L	0
Alkalinity, carbonate	3.1 mg/L	3.7 mg/L	18
Alkalinity, total	120 mg/L	120 mg/L	0
Chloride	12 mg/L	12 mg/L	0
Hexavalent chromium	0.000090 mg/L	0.000041 mg/L	75
Nitrate as N	0.024U mg/L	0.082 mg/L	Not calculable
pH	8.36 pH unit	8.37 pH unit	0
Sulfate	9.2 mg/L	9.4 mg/L	2
Total dissolved solids	160 mg/L	160 mg/L	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 ten samples.

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

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

NASA JPL, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2017925

Sample	Analyte	Flag	A or P	Reason
MW-11-5 MW-11-4 MW-11-3 Dup-5-2Q2020 MW-11-2 MW-11-1 EB-10-062220 MW-14-5 MW-14-4 MW-14-2	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2017925

Sample	Analyte	Modified Final Concentration	A or P
MW-11-5	Hexavalent chromium	0.000068U mg/L	A
MW-11-4	Hexavalent chromium	0.00006U mg/L	A
MW-11-3	Hexavalent chromium	0.00009U mg/L	A
Dup-5-2Q2020	Hexavalent chromium	0.000041U mg/L	A
MW-11-2	Hexavalent chromium	0.000047U mg/L	A
MW-11-1	Hexavalent chromium	0.000053U mg/L	A
EB-10-062220	Hexavalent chromium	0.000059U mg/L	A
MW-14-5	Hexavalent chromium	0.00004U mg/L	A
MW-14-2	Hexavalent chromium	0.00011U mg/L	A

LDC #: 48752B6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2017925 Level III Page: 1 of 2
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Orthophosphate-P (EPA Method 365.1), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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=7
VI.	Matrix Spike/Matrix Spike Duplicates	A	(11,12),(14,15), From SDG # 2018049 (MW-14-3MS/MSD)
VII.	Duplicate sample analysis	A	13,16,17, From SDG # 2018049 (MW-14-3DUP)
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(3,4)
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-11-5	2017925-02	Water	06/22/20
2	MW-11-4	2017925-03	Water	06/22/20
3	MW-11-3	2017925-04	Water	06/22/20
4	Dup-5-2Q2020	2017925-05	Water	06/22/20
5	MW-11-2	2017925-06	Water	06/22/20
6	MW-11-1	2017925-07	Water	06/22/20
7	EB-10-062220	2017925-08	Water	06/22/20
8	MW-14-5	2017925-09	Water	06/22/20
9	MW-14-4	2017925-10	Water	06/22/20
10	MW-14-2	2017925-11	Water	06/22/20
11	MW-11-5MS	2017925-02MS	Water	06/22/20
12	MW-11-5MSD	2017925-02MSD	Water	06/22/20
13	MW-11-5DUP	2017925-02DUP	Water	06/22/20
14	MW-11-1MS	2017925-07MS	Water	06/22/20
15	MW-11-1MSD	2017925-07MSD	Water	06/22/20
16	MW-11-1DUP	2017925-07DUP	Water	06/22/20

LDC #: 48752B6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2017925 Level III Page: 12 of 2
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Orthophosphate-P (EPA Method 365.1), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

	Client ID	Lab ID	Matrix	Date
17	MW-14-2DUP	2017925-11DUP	Water	06/22/20
18				
19				
20				

Notes:

Sample Specific Element Reference

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 10	pH, TDS, Cr6+, Cl, NO3-N, SO4, ClO4, NO2-N, Alk
6	PO4-P
QC	
13	pH, Alk
17	TDS
11,12,13	Cr6+, Cl, NO3-N, SO4, NO2-N
14,15,16	PO4-P

METHOD: Inorganics

All samples were properly preserved and within the requried holding time with the following exceptions:

		Method: EPA 150.1 Analyte: pH Holding Time: 48hrs			
Sample ID	Sampling Date	Analysis Date	Total Time from Collection to Analysis (hours)	Qualifier	Det/ND
1	6/22/2020 9:30	6/24/2020 15:50	54.333	J/UJ/P	det
2	6/22/2020 8:45	6/24/2020 16:03	55.300	J/UJ/P	det
3	6/22/2020 10:30	6/24/2020 16:11	53.683	J/UJ/P	det
4	6/22/2020 10:45	6/24/2020 16:19	53.567	J/UJ/P	det
5	6/22/2020 11:30	6/24/2020 16:26	52.933	J/UJ/P	det
6	6/22/2020 12:15	6/24/2020 16:34	52.317	J/UJ/P	det
7	6/22/2020 14:15	6/24/2020 16:41	50.433	J/UJ/P	det
8	6/22/2020 13:30	6/24/2020 16:48	51.300	J/UJ/P	det
9	6/22/2020 14:00	6/24/2020 16:56	50.933	J/UJ/P	det
10	6/22/2020 14:45	6/24/2020 17:04	50.317	J/UJ/P	det

Preservation

Sample ID	Preservation	Preservation Requirement (pH)	Qualifier	Det/ND

METHOD: Inorganics
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: mg/L Associated Samples: all

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**	1	2	3	4	5	6	7	8	10
Cl	0.139		0.695									
Cl		0.193	0.965									
SO4		0.365	1.825									
Cr6+	0.000033		0.000165	0.000068	0.00006	0.00009	0.000041	0.000047	0.000053	0.000059	0.00004	0.00011

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 1 to 4

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**	1	2	3	4					
Cr6+		0.000052	0.00026	see above	see above	see above	see above					

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 5 to 10

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**	5	6	7	8	10				
Cr6+		0.000068	0.00034	see above	see above	see above	see above	see above				

Comments: The listed analyte concentrtaion is the highest ICB or CCB detected in the analysis. The action level, when applicable, is establised at 5X the highest ICB, CCB, or PB concentration.

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: ATL

METHOD: Inorganics

Blank units: mg/L
Associated sample units: mg/L
Sampling Date: 6/22/20
Associated Samples: none

			Sample Identification									
Analyte	Blank ID	Blank Conc	Action Level									
TDS	7	5.3										
Cr6+		0.000059										

Comments: The action level, when applicable, is establised at 5X the highest concentration.

METHOD: Inorganics

Analyte	Concentration (mg/L)		RPD	Qualifiers (Parents Only)
	3	4		
Alkalinity Bicabonate	130	130	0	
Alkalinity Cabonate	3.1	3.7	18	
Alkalinity Total	120	120	0	
Chloride	12	12	0	
Hexavalent Chromium	0.000090	0.000041	75	
Nitrate-N	0.024 U	0.082	~~109~~ NC	
pH (pH unit)	8.36	8.37	0	
Sulfate	9.2	9.4	2	
Total Dissolved Solids	160	160	0	

NASA JPL, 2Q2020 - LDC# 48752B

SDG: 2017925

Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-5-2Q2020	2017925-05	pH	6/24/2020	8.37	Y	y	v	J	0.05	0.05	pH Units
EB-10-062220	2017925-08	pH	6/24/2020	4.99	Y	y	v	J	0.05	0.05	pH Units
MW-11-1	2017925-07	pH	6/24/2020	7.79	Y	y	v	J	0.05	0.05	pH Units
MW-11-2	2017925-06	pH	6/24/2020	7.94	Y	y	v	J	0.05	0.05	pH Units
MW-11-3	2017925-04	pH	6/24/2020	8.36	Y	y	v	J	0.05	0.05	pH Units
MW-11-4	2017925-03	pH	6/24/2020	8.27	Y	y	v	J	0.05	0.05	pH Units
MW-11-5	2017925-02	pH	6/24/2020	8.15	Y	y	v	J	0.05	0.05	pH Units
MW-14-2	2017925-11	pH	6/24/2020	7.47	Y	y	v	J	0.05	0.05	pH Units
MW-14-4	2017925-10	pH	6/24/2020	7.99	Y	y	v	J	0.05	0.05	pH Units
MW-14-5	2017925-09	pH	6/24/2020	8.31	Y	y	v	J	0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-5-2Q2020	2017925-05	Total Dissolved Solids @ 180 C	6/25/2020	160	Y	y	v		10	5.0	mg/L
EB-10-062220	2017925-08	Total Dissolved Solids @ 180 C	6/25/2020	5.3	Y	y	v j		6.7	3.3	mg/L
MW-11-1	2017925-07	Total Dissolved Solids @ 180 C	6/25/2020	410	Y	y	v		20	10	mg/L
MW-11-2	2017925-06	Total Dissolved Solids @ 180 C	6/25/2020	300	Y	y	v		20	10	mg/L
MW-11-3	2017925-04	Total Dissolved Solids @ 180 C	6/25/2020	160	Y	y	v		10	5.0	mg/L
MW-11-4	2017925-03	Total Dissolved Solids @ 180 C	6/25/2020	170	Y	y	v		10	5.0	mg/L
MW-11-5	2017925-02	Total Dissolved Solids @ 180 C	6/25/2020	210	Y	y	v		20	10	mg/L
MW-14-2	2017925-11	Total Dissolved Solids @ 180 C	6/25/2020	820	Y	y	v		50	25	mg/L
MW-14-4	2017925-10	Total Dissolved Solids @ 180 C	6/25/2020	440	Y	y	v		33	17	mg/L
MW-14-5	2017925-09	Total Dissolved Solids @ 180 C	6/25/2020	210	Y	y	v		20	10	mg/L

SDG: 2017925

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-5-2Q2020	2017925-05	Total Recoverable Iron	6/30/2020	95	Y	y	v	J	50	30	ug/L
Dup-5-2Q2020	2017925-05	Total Recoverable Magnesium	6/30/2020	8	Y	y	v		0.050	0.019	mg/L
Dup-5-2Q2020	2017925-05	Total Recoverable Sodium	6/30/2020	27	Y	y	v		0.50	0.051	mg/L
Dup-5-2Q2020	2017925-05	Total Recoverable Potassium	6/30/2020	2	Y	y	v		1.0	0.10	mg/L
Dup-5-2Q2020	2017925-05	Total Recoverable Calcium	6/30/2020	21	Y	y	v		0.10	0.014	mg/L
EB-10-062220	2017925-08	Total Recoverable Potassium	6/30/2020	1	Y	n	u		1.0	0.10	mg/L
EB-10-062220	2017925-08	Total Recoverable Iron	6/30/2020	50	Y	n	u		50	30	ug/L
EB-10-062220	2017925-08	Total Recoverable Sodium	6/30/2020	0.18	Y	y	v j		0.50	0.051	mg/L
EB-10-062220	2017925-08	Total Recoverable Calcium	6/30/2020	0.089	Y	y	v j		0.10	0.014	mg/L
EB-10-062220	2017925-08	Total Recoverable Magnesium	6/30/2020	0.05	Y	n	u		0.050	0.019	mg/L
MW-11-1	2017925-07	Total Recoverable Potassium	6/30/2020	3.2	Y	y	v		1.0	0.10	mg/L
MW-11-1	2017925-07	Total Recoverable Calcium	6/30/2020	66	Y	y	v		0.10	0.014	mg/L
MW-11-1	2017925-07	Total Recoverable Magnesium	6/30/2020	20	Y	y	v		0.050	0.019	mg/L
MW-11-1	2017925-07	Total Recoverable Iron	6/30/2020	210	Y	y	v	J	50	30	ug/L
MW-11-1	2017925-07	Total Recoverable Sodium	6/30/2020	28	Y	y	v		0.50	0.051	mg/L
MW-11-2	2017925-06	Total Recoverable Calcium	6/30/2020	51	Y	y	v		0.10	0.014	mg/L
MW-11-2	2017925-06	Total Recoverable Magnesium	6/30/2020	19	Y	y	v		0.050	0.019	mg/L
MW-11-2	2017925-06	Total Recoverable Potassium	6/30/2020	2.9	Y	y	v		1.0	0.10	mg/L
MW-11-2	2017925-06	Total Recoverable Iron	6/30/2020	330	Y	y	v	J	50	30	ug/L
MW-11-2	2017925-06	Total Recoverable Sodium	6/30/2020	23	Y	y	v		0.50	0.051	mg/L
MW-11-3	2017925-04	Total Recoverable Iron	6/30/2020	1100	Y	y	v	J	50	30	ug/L
MW-11-3	2017925-04	Total Recoverable Calcium	6/30/2020	20	Y	y	v		0.10	0.014	mg/L
MW-11-3	2017925-04	Total Recoverable Magnesium	6/30/2020	7.8	Y	y	v		0.050	0.019	mg/L
MW-11-3	2017925-04	Total Recoverable Potassium	6/30/2020	1.9	Y	y	v		1.0	0.10	mg/L
MW-11-3	2017925-04	Total Recoverable Sodium	6/30/2020	27	Y	y	v		0.50	0.051	mg/L

SDG: 2017925

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-4	2017925-03	Total Recoverable Iron	6/30/2020	110	Y	y	v	J	50	30	ug/L
MW-11-4	2017925-03	Total Recoverable Sodium	6/30/2020	26	Y	y	v		0.50	0.051	mg/L
MW-11-4	2017925-03	Total Recoverable Calcium	6/30/2020	14	Y	y	v		0.10	0.014	mg/L
MW-11-4	2017925-03	Total Recoverable Magnesium	6/30/2020	12	Y	y	v		0.050	0.019	mg/L
MW-11-4	2017925-03	Total Recoverable Potassium	6/30/2020	2	Y	y	v		1.0	0.10	mg/L
MW-11-5	2017925-02	Total Recoverable Calcium	6/30/2020	21	Y	y	v		0.10	0.014	mg/L
MW-11-5	2017925-02	Total Recoverable Potassium	6/30/2020	1.1	Y	y	v		1.0	0.10	mg/L
MW-11-5	2017925-02	Total Recoverable Magnesium	6/30/2020	2.4	Y	y	v		0.050	0.019	mg/L
MW-11-5	2017925-02	Total Recoverable Iron	6/30/2020	2800	Y	y	v	J	50	30	ug/L
MW-11-5	2017925-02	Total Recoverable Sodium	6/30/2020	48	Y	y	v		0.50	0.051	mg/L
MW-14-2	2017925-11	Total Recoverable Calcium	6/30/2020	140	Y	y	v		0.10	0.014	mg/L
MW-14-2	2017925-11	Total Recoverable Potassium	6/30/2020	2.5	Y	y	v		1.0	0.10	mg/L
MW-14-2	2017925-11	Total Recoverable Sodium	6/30/2020	41	Y	y	v		0.50	0.051	mg/L
MW-14-2	2017925-11	Total Recoverable Magnesium	6/30/2020	45	Y	y	v		0.050	0.019	mg/L
MW-14-2	2017925-11	Total Recoverable Iron	6/30/2020	150	Y	y	v	J	50	30	ug/L
MW-14-4	2017925-10	Total Recoverable Potassium	6/30/2020	2.2	Y	y	v		1.0	0.10	mg/L
MW-14-4	2017925-10	Total Recoverable Calcium	6/30/2020	67	Y	y	v		0.10	0.014	mg/L
MW-14-4	2017925-10	Total Recoverable Magnesium	6/30/2020	23	Y	y	v		0.050	0.019	mg/L
MW-14-4	2017925-10	Total Recoverable Iron	6/30/2020	100	Y	y	v	J	50	30	ug/L
MW-14-4	2017925-10	Total Recoverable Sodium	6/30/2020	31	Y	y	v		0.50	0.051	mg/L
MW-14-5	2017925-09	Total Recoverable Iron	6/30/2020	460	Y	y	v	J	50	30	ug/L
MW-14-5	2017925-09	Total Recoverable Magnesium	6/30/2020	11	Y	y	v		0.050	0.019	mg/L
MW-14-5	2017925-09	Total Recoverable Sodium	6/30/2020	31	Y	y	v		0.50	0.051	mg/L
MW-14-5	2017925-09	Total Recoverable Potassium	6/30/2020	1.7	Y	y	v		1.0	0.10	mg/L
MW-14-5	2017925-09	Total Recoverable Calcium	6/30/2020	17	Y	y	v		0.10	0.014	mg/L

SDG: 2017925

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-5-2Q2020	2017925-05	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
Dup-5-2Q2020	2017925-05	Total Recoverable Chromium	6/26/2020	3	Y	n	u		3.0	0.50	ug/L
Dup-5-2Q2020	2017925-05	Total Recoverable Arsenic	6/26/2020	1.6	Y	y	v j		2.0	0.70	ug/L
EB-10-062220	2017925-08	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
EB-10-062220	2017925-08	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
EB-10-062220	2017925-08	Total Recoverable Chromium	6/26/2020	3	Y	n	u		3.0	0.50	ug/L
MW-11-1	2017925-07	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-11-1	2017925-07	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
MW-11-1	2017925-07	Total Recoverable Chromium	6/26/2020	3	Y	n	u		3.0	0.50	ug/L
MW-11-2	2017925-06	Total Recoverable Chromium	6/26/2020	3	Y	n	u		3.0	0.50	ug/L
MW-11-2	2017925-06	Total Recoverable Arsenic	6/26/2020	1	Y	y	v j		2.0	0.70	ug/L
MW-11-2	2017925-06	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
MW-11-3	2017925-04	Total Recoverable Lead	6/26/2020	0.22	Y	y	v j		1.0	0.10	ug/L
MW-11-3	2017925-04	Total Recoverable Chromium	6/26/2020	6.7	Y	y	v		3.0	0.50	ug/L
MW-11-3	2017925-04	Total Recoverable Arsenic	6/26/2020	1.7	Y	y	v j		2.0	0.70	ug/L
MW-11-4	2017925-03	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-11-4	2017925-03	Total Recoverable Chromium	6/26/2020	3	Y	n	u		3.0	0.50	ug/L
MW-11-4	2017925-03	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
MW-11-5	2017925-02	Total Recoverable Arsenic	6/26/2020	5.6	Y	y	v		2.0	0.70	ug/L
MW-11-5	2017925-02	Total Recoverable Chromium	6/26/2020	7.4	Y	y	v		3.0	0.50	ug/L
MW-11-5	2017925-02	Total Recoverable Lead	6/26/2020	1.6	Y	y	v		1.0	0.10	ug/L
MW-14-2	2017925-11	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
MW-14-2	2017925-11	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-14-2	2017925-11	Total Recoverable Chromium	6/26/2020	1.3	Y	y	v j		3.0	0.50	ug/L
MW-14-4	2017925-10	Total Recoverable Chromium	6/26/2020	3.3	Y	y	v		3.0	0.50	ug/L

SDG: 2017925

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-14-4	2017925-10	Total Recoverable Arsenic	6/26/2020	0.89	Y	y	v j		2.0	0.70	ug/L
MW-14-4	2017925-10	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
MW-14-5	2017925-09	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
MW-14-5	2017925-09	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-14-5	2017925-09	Total Recoverable Chromium	6/26/2020	3.9	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
Dup-5-2Q2020	2017925-05	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	0.0002	0.0000	mg/L
EB-10-062220	2017925-08	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	0.0002	0.0000	mg/L
MW-11-1	2017925-07	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	0.0002	0.0000	mg/L
MW-11-2	2017925-06	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	0.0002	0.0000	mg/L
MW-11-3	2017925-04	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	0.0002	0.0000	mg/L
MW-11-4	2017925-03	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	0.0002	0.0000	mg/L
MW-11-5	2017925-02	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	0.0002	0.0000	mg/L
MW-14-2	2017925-11	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	0.0002	0.0000	mg/L
MW-14-4	2017925-10	Hexavalent Chromium	6/24/2020	######	Y	y	v		0.0002	0.0000	mg/L
MW-14-5	2017925-09	Hexavalent Chromium	6/24/2020	######	Y	y	v j	J	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
Dup-5-2Q2020	2017925-05	Nitrate as N	6/23/2020	0.082	Y	y	v j		0.10	0.024	mg/L
Dup-5-2Q2020	2017925-05	Sulfate	6/23/2020	9.4	Y	y	v		1.0	0.14	mg/L
Dup-5-2Q2020	2017925-05	Chloride	6/23/2020	12	Y	y	v		0.50	0.13	mg/L
EB-10-062220	2017925-08	Sulfate	6/23/2020	1	Y	n	u		1.0	0.14	mg/L
EB-10-062220	2017925-08	Nitrate as N	6/23/2020	0.1	Y	n	u		0.10	0.024	mg/L

SDG: 2017925

Analytical Method EPA-300.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-10-062220	2017925-08	Chloride	6/23/2020	0.5	Y	n	u		0.50	0.13	mg/L
MW-11-1	2017925-07	Sulfate	6/23/2020	52	Y	y	v		1.0	0.14	mg/L
MW-11-1	2017925-07	Nitrate as N	6/23/2020	2.8	Y	y	v		0.10	0.024	mg/L
MW-11-1	2017925-07	Chloride	6/23/2020	32	Y	y	v		0.50	0.13	mg/L
MW-11-2	2017925-06	Nitrate as N	6/23/2020	0.1	Y	n	u		0.10	0.024	mg/L
MW-11-2	2017925-06	Sulfate	6/23/2020	37	Y	y	v		1.0	0.14	mg/L
MW-11-2	2017925-06	Chloride	6/23/2020	17	Y	y	v		0.50	0.13	mg/L
MW-11-3	2017925-04	Chloride	6/23/2020	12	Y	y	v		0.50	0.13	mg/L
MW-11-3	2017925-04	Sulfate	6/23/2020	9.2	Y	y	v		1.0	0.14	mg/L
MW-11-3	2017925-04	Nitrate as N	6/23/2020	0.1	Y	n	u		0.10	0.024	mg/L
MW-11-4	2017925-03	Sulfate	6/22/2020	6.9	Y	y	v		1.0	0.14	mg/L
MW-11-4	2017925-03	Chloride	6/22/2020	12	Y	y	v		0.50	0.13	mg/L
MW-11-4	2017925-03	Nitrate as N	6/22/2020	0.1	Y	n	u		0.10	0.024	mg/L
MW-11-5	2017925-02	Chloride	6/22/2020	10	Y	y	v		0.50	0.13	mg/L
MW-11-5	2017925-02	Nitrate as N	6/22/2020	0.11	Y	y	v		0.10	0.024	mg/L
MW-11-5	2017925-02	Sulfate	6/22/2020	20	Y	y	v		1.0	0.14	mg/L
MW-14-2	2017925-11	Sulfate	6/23/2020	190	Y	y	v		1.0	0.14	mg/L
MW-14-2	2017925-11	Nitrate as N	6/23/2020	13	Y	y	v		0.10	0.024	mg/L
MW-14-2	2017925-11	Chloride	6/23/2020	120	Y	y	v		0.50	0.13	mg/L
MW-14-4	2017925-10	Chloride	6/23/2020	57	Y	y	v		0.50	0.13	mg/L
MW-14-4	2017925-10	Nitrate as N	6/23/2020	11	Y	y	v		0.10	0.024	mg/L
MW-14-4	2017925-10	Sulfate	6/23/2020	62	Y	y	v		1.0	0.14	mg/L
MW-14-5	2017925-09	Chloride	6/23/2020	10	Y	y	v		0.50	0.13	mg/L
MW-14-5	2017925-09	Sulfate	6/23/2020	17	Y	y	v		1.0	0.14	mg/L
MW-14-5	2017925-09	Nitrate as N	6/23/2020	0.11	Y	y	v		0.10	0.024	mg/L

SDG: 2017925

Analytical Method EPA-314.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-5-2Q2020	2017925-05	Perchlorate	7/1/2020	4	Y	n	u		4.0	0.81	ug/L
EB-10-062220	2017925-08	Perchlorate	7/1/2020	4	Y	n	u		4.0	0.81	ug/L
MW-11-1	2017925-07	Perchlorate	7/1/2020	0.87	Y	y	v j		4.0	0.81	ug/L
MW-11-2	2017925-06	Perchlorate	7/1/2020	4	Y	n	u		4.0	0.81	ug/L
MW-11-3	2017925-04	Perchlorate	6/30/2020	4	Y	n	u		4.0	0.81	ug/L
MW-11-4	2017925-03	Perchlorate	6/30/2020	4	Y	n	u		4.0	0.81	ug/L
MW-11-5	2017925-02	Perchlorate	6/30/2020	4	Y	n	u		4.0	0.81	ug/L
MW-14-2	2017925-11	Perchlorate	7/1/2020	3.9	Y	y	v j		4.0	0.81	ug/L
MW-14-4	2017925-10	Perchlorate	7/1/2020	4.4	Y	y	v		4.0	0.81	ug/L
MW-14-5	2017925-09	Perchlorate	7/1/2020	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
Dup-5-2Q2020	2017925-05	Nitrite as N	6/22/2020	0.05	Y	n	u		0.050	0.010	mg/L
EB-10-062220	2017925-08	Nitrite as N	6/22/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-11-1	2017925-07	Nitrite as N	6/22/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-11-2	2017925-06	Nitrite as N	6/22/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-11-3	2017925-04	Nitrite as N	6/22/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-11-4	2017925-03	Nitrite as N	6/22/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-11-5	2017925-02	Nitrite as N	6/22/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-14-2	2017925-11	Nitrite as N	6/22/2020	0.11	Y	y	v		0.050	0.010	mg/L
MW-14-4	2017925-10	Nitrite as N	6/22/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-14-5	2017925-09	Nitrite as N	6/22/2020	0.05	Y	n	u		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: 2017925

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	2017925-07	ortho-Phosphate as P	6/23/2020	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
Dup-5-2Q2020	2017925-05	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
Dup-5-2Q2020	2017925-05	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
Dup-5-2Q2020	2017925-05	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
Dup-5-2Q2020	2017925-05	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
Dup-5-2Q2020	2017925-05	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
Dup-5-2Q2020	2017925-05	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
Dup-5-2Q2020	2017925-05	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
Dup-5-2Q2020	2017925-05	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
Dup-5-2Q2020	2017925-05	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
Dup-5-2Q2020	2017925-05	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-5-2Q2020	2017925-05	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
Dup-5-2Q2020	2017925-05	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
Dup-5-2Q2020	2017925-05	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
Dup-5-2Q2020	2017925-05	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
Dup-5-2Q2020	2017925-05	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
Dup-5-2Q2020	2017925-05	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
Dup-5-2Q2020	2017925-05	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
Dup-5-2Q2020	2017925-05	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
Dup-5-2Q2020	2017925-05	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
Dup-5-2Q2020	2017925-05	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-5-2Q2020	2017925-05	1-Chlorobutane	6/24/2020	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-5-2Q2020	2017925-05	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
Dup-5-2Q2020	2017925-05	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
Dup-5-2Q2020	2017925-05	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
Dup-5-2Q2020	2017925-05	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
Dup-5-2Q2020	2017925-05	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-5-2Q2020	2017925-05	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
Dup-5-2Q2020	2017925-05	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-5-2Q2020	2017925-05	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
Dup-5-2Q2020	2017925-05	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
Dup-5-2Q2020	2017925-05	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-5-2Q2020	2017925-05	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-5-2Q2020	2017925-05	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-5-2Q2020	2017925-05	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-5-2Q2020	2017925-05	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
Dup-5-2Q2020	2017925-05	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-5-2Q2020	2017925-05	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
Dup-5-2Q2020	2017925-05	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
Dup-5-2Q2020	2017925-05	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
Dup-5-2Q2020	2017925-05	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
Dup-5-2Q2020	2017925-05	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
Dup-5-2Q2020	2017925-05	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-5-2Q2020	2017925-05	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
Dup-5-2Q2020	2017925-05	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-5-2Q2020	2017925-05	Chloroethane	6/24/2020	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
Dup-5-2Q2020	2017925-05	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-5-2Q2020	2017925-05	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-5-2Q2020	2017925-05	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-5-2Q2020	2017925-05	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
Dup-5-2Q2020	2017925-05	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
Dup-5-2Q2020	2017925-05	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-5-2Q2020	2017925-05	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-5-2Q2020	2017925-05	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
Dup-5-2Q2020	2017925-05	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
Dup-5-2Q2020	2017925-05	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-5-2Q2020	2017925-05	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-5-2Q2020	2017925-05	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-5-2Q2020	2017925-05	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
Dup-5-2Q2020	2017925-05	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-5-2Q2020	2017925-05	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-5-2Q2020	2017925-05	Styrene	6/24/2020	0.21	Y	y	v j		0.50	0.12	ug/L
Dup-5-2Q2020	2017925-05	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-5-2Q2020	2017925-05	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-5-2Q2020	2017925-05	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
Dup-5-2Q2020	2017925-05	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-5-2Q2020	2017925-05	sec-Butylbenzene	6/24/2020	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-5-2Q2020	2017925-05	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-5-2Q2020	2017925-05	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-5-2Q2020	2017925-05	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-5-2Q2020	2017925-05	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-5-2Q2020	2017925-05	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-5-2Q2020	2017925-05	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
Dup-5-2Q2020	2017925-05	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-5-2Q2020	2017925-05	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-5-2Q2020	2017925-05	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-5-2Q2020	2017925-05	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-5-2Q2020	2017925-05	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
Dup-5-2Q2020	2017925-05	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-5-2Q2020	2017925-05	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-10-062220	2017925-08	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-10-062220	2017925-08	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-10-062220	2017925-08	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-10-062220	2017925-08	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-10-062220	2017925-08	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-10-062220	2017925-08	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-10-062220	2017925-08	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-10-062220	2017925-08	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-10-062220	2017925-08	1,4-Dichlorobenzene	6/24/2020	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-10-062220	2017925-08	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-10-062220	2017925-08	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-10-062220	2017925-08	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-10-062220	2017925-08	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-10-062220	2017925-08	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-10-062220	2017925-08	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-10-062220	2017925-08	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-10-062220	2017925-08	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-10-062220	2017925-08	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-10-062220	2017925-08	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-10-062220	2017925-08	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-10-062220	2017925-08	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-10-062220	2017925-08	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-10-062220	2017925-08	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-10-062220	2017925-08	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
EB-10-062220	2017925-08	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-10-062220	2017925-08	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-10-062220	2017925-08	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-10-062220	2017925-08	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-10-062220	2017925-08	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-10-062220	2017925-08	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-10-062220	2017925-08	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-10-062220	2017925-08	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-10-062220	2017925-08	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-10-062220	2017925-08	Chloroform	6/24/2020	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
EB-10-062220	2017925-08	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-10-062220	2017925-08	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-10-062220	2017925-08	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-10-062220	2017925-08	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-10-062220	2017925-08	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
EB-10-062220	2017925-08	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-10-062220	2017925-08	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-10-062220	2017925-08	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-10-062220	2017925-08	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
EB-10-062220	2017925-08	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
EB-10-062220	2017925-08	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
EB-10-062220	2017925-08	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
EB-10-062220	2017925-08	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-10-062220	2017925-08	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
EB-10-062220	2017925-08	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
EB-10-062220	2017925-08	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
EB-10-062220	2017925-08	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
EB-10-062220	2017925-08	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
EB-10-062220	2017925-08	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-10-062220	2017925-08	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-10-062220	2017925-08	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
EB-10-062220	2017925-08	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
EB-10-062220	2017925-08	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
EB-10-062220	2017925-08	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
EB-10-062220	2017925-08	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L

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EB-10-062220	2017925-08	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-10-062220	2017925-08	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
EB-10-062220	2017925-08	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-10-062220	2017925-08	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
EB-10-062220	2017925-08	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
EB-10-062220	2017925-08	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-10-062220	2017925-08	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-10-062220	2017925-08	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-10-062220	2017925-08	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
EB-10-062220	2017925-08	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
EB-10-062220	2017925-08	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-10-062220	2017925-08	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-10-062220	2017925-08	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-10-062220	2017925-08	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-10-062220	2017925-08	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-10-062220	2017925-08	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-10-062220	2017925-08	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-10-062220	2017925-08	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
EB-10-062220	2017925-08	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
EB-10-062220	2017925-08	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-10-062220	2017925-08	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-10-062220	2017925-08	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
EB-10-062220	2017925-08	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
EB-10-062220	2017925-08	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-10-062220	2017925-08	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L

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EB-10-062220	2017925-08	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-10-062220	2017925-08	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-10-062220	2017925-08	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-1	2017925-07	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2017925-07	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-1	2017925-07	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2017925-07	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2017925-07	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-1	2017925-07	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-1	2017925-07	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-1	2017925-07	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2017925-07	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-1	2017925-07	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2017925-07	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-1	2017925-07	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2017925-07	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-1	2017925-07	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-1	2017925-07	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-1	2017925-07	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2017925-07	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2017925-07	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L

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MW-11-1	2017925-07	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2017925-07	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2017925-07	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-11-1	2017925-07	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-11-1	2017925-07	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2017925-07	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2017925-07	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2017925-07	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-1	2017925-07	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-1	2017925-07	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2017925-07	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-1	2017925-07	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-1	2017925-07	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-1	2017925-07	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2017925-07	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-1	2017925-07	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-1	2017925-07	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-1	2017925-07	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-1	2017925-07	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-1	2017925-07	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-1	2017925-07	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2017925-07	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L

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MW-11-1	2017925-07	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2017925-07	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2017925-07	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-1	2017925-07	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-1	2017925-07	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-11-1	2017925-07	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-11-1	2017925-07	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-11-1	2017925-07	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-11-1	2017925-07	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-1	2017925-07	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-11-1	2017925-07	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-1	2017925-07	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-1	2017925-07	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-11-1	2017925-07	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-11-1	2017925-07	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-11-1	2017925-07	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-11-1	2017925-07	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-11-1	2017925-07	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-11-1	2017925-07	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-11-1	2017925-07	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-1	2017925-07	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-11-1	2017925-07	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2017925-07	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-1	2017925-07	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2017925-07	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L

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MW-11-1	2017925-07	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2017925-07	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-1	2017925-07	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-1	2017925-07	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-1	2017925-07	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-11-1	2017925-07	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-1	2017925-07	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-11-1	2017925-07	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-1	2017925-07	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-11-1	2017925-07	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-1	2017925-07	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-1	2017925-07	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-1	2017925-07	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-11-1	2017925-07	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-2	2017925-06	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2017925-06	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2017925-06	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-2	2017925-06	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-2	2017925-06	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-11-2	2017925-06	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-2	2017925-06	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2017925-06	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2017925-06	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2017925-06	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L

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MW-11-2	2017925-06	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2017925-06	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2017925-06	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2017925-06	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2017925-06	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2017925-06	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2017925-06	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2017925-06	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-2	2017925-06	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2017925-06	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-2	2017925-06	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-11-2	2017925-06	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-2	2017925-06	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2017925-06	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-2	2017925-06	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-2	2017925-06	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-11-2	2017925-06	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-2	2017925-06	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-2	2017925-06	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-2	2017925-06	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2017925-06	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-2	2017925-06	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-11-2	2017925-06	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-11-2	2017925-06	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-2	2017925-06	cis-1,3-Dichloropropene	6/24/2020	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	2017925-06	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2017925-06	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-2	2017925-06	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-2	2017925-06	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-2	2017925-06	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2017925-06	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-11-2	2017925-06	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-2	2017925-06	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2017925-06	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-2	2017925-06	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2017925-06	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2017925-06	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2017925-06	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-2	2017925-06	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-2	2017925-06	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2017925-06	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-11-2	2017925-06	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2017925-06	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2017925-06	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-2	2017925-06	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-2	2017925-06	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-2	2017925-06	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2017925-06	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-2	2017925-06	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-2	2017925-06	tert-Butylbenzene	6/24/2020	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-11-2	2017925-06	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2017925-06	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2017925-06	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2017925-06	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2017925-06	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-2	2017925-06	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2017925-06	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-2	2017925-06	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2017925-06	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-11-2	2017925-06	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-11-2	2017925-06	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-11-2	2017925-06	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-11-2	2017925-06	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-11-2	2017925-06	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-11-2	2017925-06	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-11-2	2017925-06	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-2	2017925-06	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-2	2017925-06	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-11-2	2017925-06	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-2	2017925-06	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-2	2017925-06	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-2	2017925-06	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-2	2017925-06	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-2	2017925-06	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-11-2	2017925-06	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	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-11-2	2017925-06	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-11-2	2017925-06	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-11-3	2017925-04	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-3	2017925-04	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2017925-04	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-3	2017925-04	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2017925-04	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2017925-04	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-3	2017925-04	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-3	2017925-04	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2017925-04	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2017925-04	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-3	2017925-04	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-3	2017925-04	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-3	2017925-04	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2017925-04	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-3	2017925-04	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-3	2017925-04	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2017925-04	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-11-3	2017925-04	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2017925-04	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2017925-04	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-3	2017925-04	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-3	2017925-04	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2017925-04	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	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	2017925-04	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-3	2017925-04	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-3	2017925-04	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-3	2017925-04	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-3	2017925-04	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2017925-04	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-3	2017925-04	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2017925-04	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2017925-04	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2017925-04	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2017925-04	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2017925-04	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-11-3	2017925-04	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2017925-04	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-11-3	2017925-04	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-11-3	2017925-04	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-11-3	2017925-04	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-3	2017925-04	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-3	2017925-04	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-3	2017925-04	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-3	2017925-04	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-11-3	2017925-04	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-11-3	2017925-04	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-11-3	2017925-04	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-3	2017925-04	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	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-11-3	2017925-04	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-3	2017925-04	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-11-3	2017925-04	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-3	2017925-04	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-3	2017925-04	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-11-3	2017925-04	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-11-3	2017925-04	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-11-3	2017925-04	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-11-3	2017925-04	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-11-3	2017925-04	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-11-3	2017925-04	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-11-3	2017925-04	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-11-3	2017925-04	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-11-3	2017925-04	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2017925-04	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-3	2017925-04	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2017925-04	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2017925-04	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2017925-04	Methyl t-butyl ether	6/24/2020	0.19	Y	y	v j		0.50	0.14	ug/L
MW-11-3	2017925-04	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-3	2017925-04	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-3	2017925-04	Styrene	6/24/2020	0.16	Y	y	v j		0.50	0.12	ug/L
MW-11-3	2017925-04	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2017925-04	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2017925-04	t-Amyl Methyl ether	6/24/2020	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-11-3	2017925-04	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2017925-04	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-3	2017925-04	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-3	2017925-04	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2017925-04	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-3	2017925-04	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2017925-04	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2017925-04	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-3	2017925-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-3	2017925-04	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-3	2017925-04	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-3	2017925-04	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-3	2017925-04	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-11-3	2017925-04	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-4	2017925-03	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-11-4	2017925-03	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2017925-03	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-4	2017925-03	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2017925-03	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-4	2017925-03	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2017925-03	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2017925-03	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2017925-03	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2017925-03	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-4	2017925-03	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L

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MW-11-4	2017925-03	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2017925-03	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-4	2017925-03	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-4	2017925-03	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-4	2017925-03	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-4	2017925-03	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2017925-03	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-4	2017925-03	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2017925-03	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-4	2017925-03	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2017925-03	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-4	2017925-03	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-4	2017925-03	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-11-4	2017925-03	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-11-4	2017925-03	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-11-4	2017925-03	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-4	2017925-03	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2017925-03	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-4	2017925-03	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-4	2017925-03	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-4	2017925-03	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-4	2017925-03	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-4	2017925-03	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2017925-03	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2017925-03	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-11-4	2017925-03	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2017925-03	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2017925-03	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-4	2017925-03	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2017925-03	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-4	2017925-03	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-4	2017925-03	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2017925-03	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-11-4	2017925-03	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-11-4	2017925-03	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-11-4	2017925-03	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-4	2017925-03	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-4	2017925-03	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-4	2017925-03	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-4	2017925-03	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-11-4	2017925-03	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-11-4	2017925-03	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2017925-03	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-11-4	2017925-03	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-4	2017925-03	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-11-4	2017925-03	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-4	2017925-03	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-4	2017925-03	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-11-4	2017925-03	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-11-4	2017925-03	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L

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MW-11-4	2017925-03	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-11-4	2017925-03	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-11-4	2017925-03	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2017925-03	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2017925-03	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-11-4	2017925-03	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-4	2017925-03	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-4	2017925-03	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-4	2017925-03	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2017925-03	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2017925-03	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-4	2017925-03	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2017925-03	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-11-4	2017925-03	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-4	2017925-03	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-4	2017925-03	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2017925-03	Trichloroethene	6/24/2020	0.31	Y	y	v j		0.50	0.19	ug/L
MW-11-4	2017925-03	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-4	2017925-03	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-4	2017925-03	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-4	2017925-03	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-4	2017925-03	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-11-4	2017925-03	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-4	2017925-03	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-4	2017925-03	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-11-4	2017925-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2017925-02	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2017925-02	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2017925-02	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2017925-02	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-5	2017925-02	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-5	2017925-02	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2017925-02	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-11-5	2017925-02	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-5	2017925-02	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2017925-02	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2017925-02	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2017925-02	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2017925-02	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2017925-02	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2017925-02	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2017925-02	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2017925-02	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2017925-02	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2017925-02	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2017925-02	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2017925-02	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-5	2017925-02	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2017925-02	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2017925-02	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L

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MW-11-5	2017925-02	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-5	2017925-02	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-5	2017925-02	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2017925-02	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2017925-02	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-5	2017925-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2017925-02	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-5	2017925-02	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-5	2017925-02	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2017925-02	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-11-5	2017925-02	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-11-5	2017925-02	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-11-5	2017925-02	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-11-5	2017925-02	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-11-5	2017925-02	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-11-5	2017925-02	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-5	2017925-02	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-11-5	2017925-02	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-11-5	2017925-02	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-11-5	2017925-02	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-11-5	2017925-02	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-11-5	2017925-02	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-11-5	2017925-02	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-11-5	2017925-02	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-11-5	2017925-02	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-11-5	2017925-02	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2017925-02	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2017925-02	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-11-5	2017925-02	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-11-5	2017925-02	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-11-5	2017925-02	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-11-5	2017925-02	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-11-5	2017925-02	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-11-5	2017925-02	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-11-5	2017925-02	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-11-5	2017925-02	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-11-5	2017925-02	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-11-5	2017925-02	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-11-5	2017925-02	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-11-5	2017925-02	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-5	2017925-02	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-11-5	2017925-02	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-11-5	2017925-02	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-11-5	2017925-02	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-11-5	2017925-02	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-11-5	2017925-02	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-11-5	2017925-02	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-11-5	2017925-02	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-11-5	2017925-02	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-11-5	2017925-02	n-Butylbenzene	6/24/2020	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-11-5	2017925-02	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-11-5	2017925-02	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-11-5	2017925-02	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2017925-02	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2017925-02	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-11-5	2017925-02	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2017925-02	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-11-5	2017925-02	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-11-5	2017925-02	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-11-5	2017925-02	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-5	2017925-02	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-11-5	2017925-02	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-11-5	2017925-02	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-2	2017925-11	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-2	2017925-11	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-2	2017925-11	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-14-2	2017925-11	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-2	2017925-11	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-2	2017925-11	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-2	2017925-11	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-2	2017925-11	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-2	2017925-11	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-2	2017925-11	Tetrachloroethene	6/24/2020	0.35	Y	y	v j		0.50	0.23	ug/L
MW-14-2	2017925-11	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-14-2	2017925-11	n-Propylbenzene	6/24/2020	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-14-2	2017925-11	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-14-2	2017925-11	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-2	2017925-11	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-2	2017925-11	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-14-2	2017925-11	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-2	2017925-11	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-2	2017925-11	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-14-2	2017925-11	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-2	2017925-11	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-2	2017925-11	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-2	2017925-11	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-2	2017925-11	Chloroform	6/24/2020	0.49	Y	y	v j		0.50	0.14	ug/L
MW-14-2	2017925-11	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-2	2017925-11	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-2	2017925-11	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-14-2	2017925-11	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-14-2	2017925-11	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-14-2	2017925-11	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-2	2017925-11	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-14-2	2017925-11	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-2	2017925-11	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-2	2017925-11	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-2	2017925-11	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-2	2017925-11	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-2	2017925-11	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L

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MW-14-2	2017925-11	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-2	2017925-11	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-2	2017925-11	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-14-2	2017925-11	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-14-2	2017925-11	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-14-2	2017925-11	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-2	2017925-11	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-14-2	2017925-11	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-14-2	2017925-11	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-14-2	2017925-11	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-2	2017925-11	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-2	2017925-11	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-2	2017925-11	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-2	2017925-11	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-14-2	2017925-11	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-2	2017925-11	Trichloroethene	6/24/2020	1.4	Y	y	v		0.50	0.19	ug/L
MW-14-2	2017925-11	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-2	2017925-11	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-2	2017925-11	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-2	2017925-11	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-2	2017925-11	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-2	2017925-11	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-2	2017925-11	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-2	2017925-11	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-14-2	2017925-11	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L

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MW-14-2	2017925-11	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-14-2	2017925-11	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-14-2	2017925-11	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-14-2	2017925-11	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-14-2	2017925-11	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-14-2	2017925-11	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-14-2	2017925-11	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-14-2	2017925-11	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-14-2	2017925-11	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-14-2	2017925-11	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-14-2	2017925-11	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-14-2	2017925-11	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-14-2	2017925-11	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-14-2	2017925-11	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-14-2	2017925-11	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-2	2017925-11	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-14-2	2017925-11	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-14-2	2017925-11	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-14-2	2017925-11	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-14-2	2017925-11	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-14-2	2017925-11	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-14-2	2017925-11	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-2	2017925-11	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-2	2017925-11	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-2	2017925-11	n-Butylbenzene	6/24/2020	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-14-4	2017925-10	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-14-4	2017925-10	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-4	2017925-10	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-4	2017925-10	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-4	2017925-10	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-4	2017925-10	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-4	2017925-10	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-4	2017925-10	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-14-4	2017925-10	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-4	2017925-10	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-4	2017925-10	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-4	2017925-10	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-4	2017925-10	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-14-4	2017925-10	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-14-4	2017925-10	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-4	2017925-10	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-4	2017925-10	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-4	2017925-10	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-14-4	2017925-10	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-14-4	2017925-10	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-14-4	2017925-10	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-14-4	2017925-10	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-14-4	2017925-10	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-14-4	2017925-10	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-14-4	2017925-10	1,1-Dichloroethene	6/24/2020	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-14-4	2017925-10	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-14-4	2017925-10	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-4	2017925-10	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-4	2017925-10	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-14-4	2017925-10	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-4	2017925-10	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-4	2017925-10	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-4	2017925-10	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-4	2017925-10	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-14-4	2017925-10	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-14-4	2017925-10	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-14-4	2017925-10	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-4	2017925-10	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-14-4	2017925-10	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-14-4	2017925-10	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-14-4	2017925-10	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-14-4	2017925-10	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-4	2017925-10	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-14-4	2017925-10	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-14-4	2017925-10	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-14-4	2017925-10	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-14-4	2017925-10	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-14-4	2017925-10	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-14-4	2017925-10	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-4	2017925-10	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	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-14-4	2017925-10	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-4	2017925-10	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-4	2017925-10	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-14-4	2017925-10	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-14-4	2017925-10	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-4	2017925-10	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-4	2017925-10	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-4	2017925-10	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-4	2017925-10	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-4	2017925-10	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-4	2017925-10	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-4	2017925-10	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-14-4	2017925-10	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-4	2017925-10	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-14-4	2017925-10	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-4	2017925-10	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-14-4	2017925-10	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-14-4	2017925-10	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-14-4	2017925-10	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-14-4	2017925-10	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-4	2017925-10	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-14-4	2017925-10	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-14-4	2017925-10	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-14-4	2017925-10	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-4	2017925-10	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-14-4	2017925-10	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-4	2017925-10	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-4	2017925-10	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-4	2017925-10	Chloroform	6/24/2020	0.24	Y	y	v j		0.50	0.14	ug/L
MW-14-4	2017925-10	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-14-4	2017925-10	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-14-4	2017925-10	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-4	2017925-10	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-4	2017925-10	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-4	2017925-10	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-4	2017925-10	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-4	2017925-10	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-5	2017925-09	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-14-5	2017925-09	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-14-5	2017925-09	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-14-5	2017925-09	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-14-5	2017925-09	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-14-5	2017925-09	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-14-5	2017925-09	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-14-5	2017925-09	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-14-5	2017925-09	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-14-5	2017925-09	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-14-5	2017925-09	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-14-5	2017925-09	Acetone	6/24/2020	10	Y	n	u		10	6.6	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-14-5	2017925-09	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-5	2017925-09	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-14-5	2017925-09	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-5	2017925-09	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-14-5	2017925-09	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-14-5	2017925-09	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-14-5	2017925-09	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-5	2017925-09	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-14-5	2017925-09	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-5	2017925-09	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-5	2017925-09	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-5	2017925-09	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-5	2017925-09	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-5	2017925-09	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-14-5	2017925-09	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-14-5	2017925-09	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-5	2017925-09	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-5	2017925-09	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-5	2017925-09	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-14-5	2017925-09	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-14-5	2017925-09	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-5	2017925-09	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-14-5	2017925-09	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-14-5	2017925-09	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-5	2017925-09	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-5	2017925-09	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-5	2017925-09	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-14-5	2017925-09	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-5	2017925-09	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-5	2017925-09	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-14-5	2017925-09	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-14-5	2017925-09	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-14-5	2017925-09	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-14-5	2017925-09	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-5	2017925-09	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-14-5	2017925-09	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-14-5	2017925-09	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-5	2017925-09	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-5	2017925-09	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-5	2017925-09	Chloroform	6/24/2020	0.15	Y	y	v j		0.50	0.14	ug/L
MW-14-5	2017925-09	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-5	2017925-09	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-5	2017925-09	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-14-5	2017925-09	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-14-5	2017925-09	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-14-5	2017925-09	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L

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MW-14-5	2017925-09	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-14-5	2017925-09	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-14-5	2017925-09	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-5	2017925-09	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-14-5	2017925-09	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-5	2017925-09	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-5	2017925-09	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-5	2017925-09	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-14-5	2017925-09	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-14-5	2017925-09	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-14-5	2017925-09	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-5	2017925-09	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-5	2017925-09	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-14-5	2017925-09	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-5	2017925-09	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-5	2017925-09	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-5	2017925-09	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-5	2017925-09	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-5	2017925-09	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-5	2017925-09	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-5	2017925-09	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-10-062220	2017925-01	2-Chlorotoluene	6/24/2020	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
TB-10-062220	2017925-01	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-10-062220	2017925-01	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-10-062220	2017925-01	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
TB-10-062220	2017925-01	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-10-062220	2017925-01	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-10-062220	2017925-01	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-10-062220	2017925-01	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-10-062220	2017925-01	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-10-062220	2017925-01	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-10-062220	2017925-01	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-10-062220	2017925-01	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-10-062220	2017925-01	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-10-062220	2017925-01	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-10-062220	2017925-01	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-10-062220	2017925-01	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-10-062220	2017925-01	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-10-062220	2017925-01	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-10-062220	2017925-01	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-10-062220	2017925-01	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-10-062220	2017925-01	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-10-062220	2017925-01	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-10-062220	2017925-01	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-10-062220	2017925-01	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-10-062220	2017925-01	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
TB-10-062220	2017925-01	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L

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TB-10-062220	2017925-01	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-10-062220	2017925-01	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-10-062220	2017925-01	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-10-062220	2017925-01	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-10-062220	2017925-01	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
TB-10-062220	2017925-01	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
TB-10-062220	2017925-01	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
TB-10-062220	2017925-01	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-10-062220	2017925-01	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
TB-10-062220	2017925-01	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
TB-10-062220	2017925-01	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
TB-10-062220	2017925-01	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
TB-10-062220	2017925-01	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
TB-10-062220	2017925-01	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-10-062220	2017925-01	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-10-062220	2017925-01	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
TB-10-062220	2017925-01	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-10-062220	2017925-01	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
TB-10-062220	2017925-01	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
TB-10-062220	2017925-01	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
TB-10-062220	2017925-01	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
TB-10-062220	2017925-01	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
TB-10-062220	2017925-01	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-10-062220	2017925-01	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-10-062220	2017925-01	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L

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TB-10-062220	2017925-01	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
TB-10-062220	2017925-01	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
TB-10-062220	2017925-01	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
TB-10-062220	2017925-01	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
TB-10-062220	2017925-01	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
TB-10-062220	2017925-01	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
TB-10-062220	2017925-01	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-10-062220	2017925-01	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-10-062220	2017925-01	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-10-062220	2017925-01	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
TB-10-062220	2017925-01	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-10-062220	2017925-01	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-10-062220	2017925-01	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-10-062220	2017925-01	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-10-062220	2017925-01	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-10-062220	2017925-01	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-10-062220	2017925-01	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-10-062220	2017925-01	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-10-062220	2017925-01	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-10-062220	2017925-01	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-10-062220	2017925-01	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-10-062220	2017925-01	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-10-062220	2017925-01	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-10-062220	2017925-01	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-10-062220	2017925-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L

SDG: 2017925

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-10-062220	2017925-01	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-10-062220	2017925-01	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-10-062220	2017925-01	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-10-062220	2017925-01	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-10-062220	2017925-01	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-10-062220	2017925-01	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-10-062220	2017925-01	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-10-062220	2017925-01	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-10-062220	2017925-01	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-10-062220	2017925-01	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
TB-10-062220	2017925-01	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-5-2Q2020	2017925-05	Bicarbonate	6/24/2020	130	Y	y	v		5.0	5.0	mg/L
Dup-5-2Q2020	2017925-05	Total Alkalinity as CaCO3	6/24/2020	120	Y	y	v		4.1	4.1	mg/L
Dup-5-2Q2020	2017925-05	Carbonate	6/24/2020	3.7	Y	y	v		2.5	2.5	mg/L
EB-10-062220	2017925-08	Total Alkalinity as CaCO3	6/24/2020	4.1	Y	n	u		4.1	4.1	mg/L
EB-10-062220	2017925-08	Bicarbonate	6/24/2020	5	Y	n	u		5.0	5.0	mg/L
EB-10-062220	2017925-08	Carbonate	6/24/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-11-1	2017925-07	Carbonate	6/24/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-11-1	2017925-07	Total Alkalinity as CaCO3	6/24/2020	220	Y	y	v		4.1	4.1	mg/L
MW-11-1	2017925-07	Bicarbonate	6/24/2020	260	Y	y	v		5.0	5.0	mg/L
MW-11-2	2017925-06	Bicarbonate	6/24/2020	230	Y	y	v		5.0	5.0	mg/L
MW-11-2	2017925-06	Total Alkalinity as CaCO3	6/24/2020	190	Y	y	v		4.1	4.1	mg/L

SDG: 2017925

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-11-2	2017925-06	Carbonate	6/24/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-11-3	2017925-04	Total Alkalinity as CaCO3	6/24/2020	120	Y	y	v		4.1	4.1	mg/L
MW-11-3	2017925-04	Bicarbonate	6/24/2020	130	Y	y	v		5.0	5.0	mg/L
MW-11-3	2017925-04	Carbonate	6/24/2020	3.1	Y	y	v		2.5	2.5	mg/L
MW-11-4	2017925-03	Bicarbonate	6/24/2020	150	Y	y	v		5.0	5.0	mg/L
MW-11-4	2017925-03	Carbonate	6/24/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-11-4	2017925-03	Total Alkalinity as CaCO3	6/24/2020	120	Y	y	v		4.1	4.1	mg/L
MW-11-5	2017925-02	Carbonate	6/24/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-11-5	2017925-02	Total Alkalinity as CaCO3	6/24/2020	130	Y	y	v		4.1	4.1	mg/L
MW-11-5	2017925-02	Bicarbonate	6/24/2020	160	Y	y	v		5.0	5.0	mg/L
MW-14-2	2017925-11	Bicarbonate	6/24/2020	280	Y	y	v		10	10	mg/L
MW-14-2	2017925-11	Carbonate	6/24/2020	5	Y	n	u		5.0	5.0	mg/L
MW-14-2	2017925-11	Total Alkalinity as CaCO3	6/24/2020	230	Y	y	v		8.2	8.2	mg/L
MW-14-4	2017925-10	Total Alkalinity as CaCO3	6/24/2020	160	Y	y	v		4.1	4.1	mg/L
MW-14-4	2017925-10	Carbonate	6/24/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-14-4	2017925-10	Bicarbonate	6/24/2020	190	Y	y	v		5.0	5.0	mg/L
MW-14-5	2017925-09	Bicarbonate	6/24/2020	160	Y	y	v		5.0	5.0	mg/L
MW-14-5	2017925-09	Carbonate	6/24/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-14-5	2017925-09	Total Alkalinity as CaCO3	6/24/2020	130	Y	y	v		4.1	4.1	mg/L

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 13, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018049

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-11-062320	2018049-01	Water	06/23/20
MW-14-3**	2018049-02**	Water	06/23/20
EB-11-062320	2018049-03	Water	06/23/20
MW-21-5	2018049-04	Water	06/23/20
MW-21-4	2018049-05	Water	06/23/20
MW-21-3	2018049-06	Water	06/23/20
MW-21-2	2018049-07	Water	06/23/20
DUP-6-2Q2020	2018049-08	Water	06/23/20
MW-14-3MS	2018049-02MS	Water	06/23/20
MW-14-3MSD	2018049-02MSD	Water	06/23/20

**Indicates sample underwent Level IV review

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 evaluation, 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.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/18/20	Pentachloroethane	76.0	All samples in SDG 2018049	UJ (all non-detects)	P

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
06/23/20 (23JUN59)	Bromomethane	44.7	All samples in SDG 2018049	UJ (all non-detects)	P
06/23/20 (23JUN60)	Methyl iodide	58.2	All samples in SDG 2018049	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-11-062320 was identified as a trip blank. No contaminants were found.

Sample EB-11-062320 was identified as an equipment 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-21-2 and DUP-6-2Q2020 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-6-2Q2020	
Chloroform	0.47	0.42	11
Tetrachloroethene	2.0	1.8	11
Trichloroethene	0.27	0.22	20

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 ICV %D and continuing calibration %D, data were qualified as estimated in eight samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2018049

Sample	Compound	Flag	A or P	Reason
TB-11-062320 MW-14-3** EB-11-062320 MW-21-5 MW-21-4 MW-21-3 MW-21-2 DUP-6-2Q2020	Pentachloroethane	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-11-062320 MW-14-3** EB-11-062320 MW-21-5 MW-21-4 MW-21-3 MW-21-2 DUP-6-2Q2020	Bromomethane Methyl iodide	UJ (all non-detects) UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2018049

No Sample Data Qualified in this SDG

LDC #: 48752C1a

SDG #: 2018049

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 8/12/20

Page: 1 of 1

Reviewer:

2nd Reviewer:

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/SW	RSD≤20%. ICV=30%
IV.	Continuing calibration	SW	CCV=30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1. EB=3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D=7+8
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-11-062320	2018049-01	Water	06/23/20
2	MW-14-3**	2018049-02**	Water	06/23/20
3	EB-11-062320	2018049-03	Water	06/23/20
4	MW-21-5	2018049-04	Water	06/23/20
5	MW-21-4	2018049-05	Water	06/23/20
6	MW-21-3	2018049-06	Water	06/23/20
7	MW-21-2	2018049-07	Water	06/23/20
8	DUP-6-2Q2020	2018049-08	Water	06/23/20
9	MW-14-3MS	2018049-02MS	Water	06/23/20
10	MW-14-3MSD	2018049-02MSD	Water	06/23/20
11				
12				
13				
14				

LDC #48752C1a

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: 9
2nd Reviewer: M

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 calibration				
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? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were 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				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for 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 for this SDG?	✓			

LDC #: 40752C1a

VALIDATION FINDINGS CHECKLIST

Reviewer: CF
2nd Reviewer: FM

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) within 70-130%?	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were 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				
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 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.

LDC #: 48752C1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: PG
2nd Reviewer: TT

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y (N) N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/18/20	18JUN28	ZZZZ	76.0	All (ND)	J/UJ/P

LDC #: 48752C1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer:
2nd Reviewer: JS

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were all percent differences (%D) < 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
	6/23/20	23JUN59	B	44.7	All (ND)	J/UJ/P
	6/23/20	23JUN60	Methyl iodide	58.2		✓

LDC#:48752C1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: 9
2nd Reviewer: 9

METHOD: GCMS VOA (EPA Method 524.2)

Compound	Concentration (ug/L)		RPD
	7	8	
K	0.47	0.42	11
AA	2.0	1.8	11
S	0.27	0.22	20

LDC #: 48752C1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PG
2nd Reviewer: PG

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 RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL (MS-V5)	6/18/20	K (1st internal standard)	0.6723501	0.67235	0.6584789	0.6584789	2.271494	2.272
			S (2nd internal standard)	0.3480862	0.3480861	0.3443647	0.3443647	4.923863	4.924
			EE (3rd internal standard)	1.866471	1.866471	1.794106	1.794106	5.729535	5.729
			(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.

LDC #: 48752C1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: PG
2nd Reviewer: PT

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 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

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	23JUN59	6/23/20	K (1st internal standard)	0.6584789	0.7684992	0.7684992	16.7	16.7
			S (2nd internal standard)	0.3443647	0.3397963	0.3397963	1.3	1.3
			EE (3rd internal standard)	1.794106	1.689156	1.689156	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.

LDC #: 48752d1a

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer:

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: 2

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
Toluene-d8	10.0	965	96.5	96.5	
Bromofluorobenzene		9.97	99.7	99.7	
~~1,2-Dichlorobenzene-d4~~ 1,2-DCE		12.2	122	122	
Dibromofluoromethane					

Sample ID:

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

Sample ID:

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

Sample ID:

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

LDC #: 48152d9

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: 9

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: 9/10

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	ND	30.91	29.21	124	124	117	117	5.66	5.66
Trichloroethene	↓	↓	1.88	29.29	29.51	110	110	111	111	0.748	0.748
Benzene	↓	↓	ND	28.43	27.45	114	114	110	110	3.51	3.51
Toluene	↓	↓	↓	25.97	26.69	104	104	107	107	2.73	2.73
Chlorobenzene	↓	↓	↓	24.76	23.94	99	99	95.8	95.8	3.37	3.37

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 #: 48362I9

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: 17

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy 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 = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: B080915-BS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	ND	30.30	NA	121	121				
Trichloroethene	↓	↓	27.74		111	111				
Benzene	↓	↓	28.21	↓	113	113				
Toluene	↓	↓	25.50	↓	102	102				
Chlorobenzene	↓	↓	23.93	↓	95.7	95.7				

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.

LDC #: 18552c19

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: Q
2nd reviewer: RT

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

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. 2 , K :

Conc. = (13288)(10.0)(1)(1) / (23734)(0.6584789)(1)(1)

= 0.85 ug/L

#	Sample ID	Compound	Reported Concentration ug/L	Calculated Concentration ( )	Qualification
	2	K	0.85		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 18, 2020

Parameters: Metals

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018049

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-14-3**	2018049-02**	Water	06/23/20
EB-11-062320	2018049-03	Water	06/23/20
MW-21-5	2018049-04	Water	06/23/20
MW-21-4	2018049-05	Water	06/23/20
MW-21-3	2018049-06	Water	06/23/20
MW-21-2	2018049-07	Water	06/23/20
DUP-6-2Q2020	2018049-08	Water	06/23/20
MW-14-3MS	2018049-02MS	Water	06/23/20
MW-14-3MSD	2018049-02MSD	Water	06/23/20
MW-14-3DUP	2018049-02DUP	Water	06/23/20

**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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

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

V. 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	Arsenic	0.81 ug/L	EB-11-062320 MW-21-5 MW-21-4 MW-21-3 MW-21-2 DUP-6-2Q2020

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-21-5	Arsenic	1.2 ug/L	1.2U ug/L

VI. Field Blanks

Sample EB-11-062320 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Analyte	Concentration
EB-11-062320	Calcium Magnesium Sodium	0.097 mg/L 0.03 mg/L 0.24 mg/L

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. For MW-14-3MS/MSD, no data were qualified for calcium, magnesium, and sodium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration. 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-6-2Q2020 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-6-2Q2020	
Calcium	160 mg/L	160 mg/L	0
Chromium	7.0 ug/L	0.88 ug/L	155
Iron	380 ug/L	110 ug/L	110

Analyte	Concentration		RPD
	MW-21-2	DUP-6-2Q2020	
Magnesium	51 mg/L	49 mg/L	4
Potassium	3.0 mg/L	3.0 mg/L	0
Sodium	58 mg/L	56 mg/L	4

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 methods. No results were rejected in this SDG.

Due to laboratory blank contamination, data were qualified as not detected in one sample.

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2018049

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2018049

Sample	Analyte	Modified Final Concentration	A or P
MW-21-5	Arsenic	1.2U ug/L	A

LDC #: 48752C4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2018049 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=2
VII.	Matrix Spike/Matrix Spike Duplicates	A	(8,9): Ca,Mg,Na > 4X
VIII.	Duplicate sample analysis	A	10
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(6,7)
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-14-3**	2018049-02**	Water	06/23/20
2	EB-11-062320	2018049-03	Water	06/23/20
3	MW-21-5	2018049-04	Water	06/23/20
4	MW-21-4	2018049-05	Water	06/23/20
5	MW-21-3	2018049-06	Water	06/23/20
6	MW-21-2	2018049-07	Water	06/23/20
7	DUP-6-2Q2020	2018049-08	Water	06/23/20
8	MW-14-3MS	2018049-02MS	Water	06/23/20
9	MW-14-3MSD	2018049-02MSD	Water	06/23/20
10	MW-14-3DUP	2018049-02DUP	Water	06/23/20
11				
12				
13				

Notes:

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 7	Fe, As,Cr,Pb,Ca,Mg,Na,K
QC	
8,9,10	Fe, As,Cr,Pb,Ca,Mg,Na,K

Analysis Method

ICP	Fe,Ca,Mg,Na,K
ICP-MS	As,Cr,Pb
CVAA	

VALIDATION FINDINGS WORKSHEET
Laboratory Blank Contamination (PB/ICB/CCB)

Reviewer: ATL

METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: Associated Samples: 2 to 7

				Sample Identification								
Analyte	**PB (units)**	**Maximum ICB/CCB (ug/L)**	**Action Level**	3								
As		0.81	4.05	1.2								

Comments: The listed analyte concentrtaion is the highest ICB or CCB detected in the analysis. The action level, when applicable, is established at 5X the highest ICB, CCB, or PB concentration.

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: ATL

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

Blank units: ug/L, mg/L
Associated sample units: ug/L, mg/L
Sampling Date: 6/23/20
Associated Samples: none

			Sample Identification									
Analyte	Blank ID	Blank Conc	Action Level									
Ca (mg/L)	2	0.097										
Mg (mg/L)		0.03										
Na (mg/L)		0.24										

Comments: The action level, when applicable, is establised at 5X the highest concentration.

Method: Metals

Analyte	Concentration (mg/L)		RPD	Qualifiers (Parents Only)
	6	7		
Calcium	160	160	0	
Chromium (ug/L)	7.0	0.88	155	
Iron (ug/L)	380	110	110	
Magnesium	51	49	4	
Potassium	3.0	3.0	0	
Sodium	58	56	4	

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

An intial calibration verification (ICV), continuing calibration verification (CCV), low level calibration check (LLCC), and interference check sample (ICSAB) percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = (Found/True) x 100

Found = concentration of each analyte measured in the analysis

True = concentration of each analyte in the source

Standard ID	Type of Analysis	Element	Found	True	Recalculated %R	Reported %R	Acceptable (Y/N)
ICV	ICP	Fe (mg/L)	20.34	20	101.7	102	Y
CCV	ICP	Mg (mg/L)	48.2	50	96.4	96.4	Y
LLCC	ICP						
ICSAB	ICP	Ca (mg/L)	508.8	500	101.76	102	Y
ICV	ICP-MS	Pb (ug/L)	129.624	125	103.6992	104	Y
CCV	ICP-MS	Cr(ug/L)	40.116	40	100.29	100	Y
LLCC	ICP-MS						
ICSAB	ICP-MS						
ICV	CVAA						
CCV	CVAA						

ICP-MS Tune	QC Parameter	Mass	Actual	Required
	Mass Axis	102.905	102.879	± 0.1 amu
	%RSD	24	0.6	≤ 5%

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

Percent recoveries (%R) for the laboratory control sample (LCS), matrix spike (MS), and post digestion spike (PDS) were recalculated using the following formula:

%R = (Found/True) x 100

Found = concentration of each analyte measured in the analysis. For the MS calculation, Found = SSR (Spiked Sample Result) - SR (Sample Result)

True = concentration of each analyte in the source

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

RPD = (Absolute value(S-D)x 200) / (S+D)

S = Original sample concentration

D = Duplicate sample concentration

The serial dilution percent difference (%D) was recalculated using the following formula.

%D = (Absolute value (I - SDR)) x 100 / (I)

I = Initial sample result

SDR = Serial dilution result (with a 5x dilution applied)

Sample ID	Type of Analysis	Element	Found/S/I	True/D/SDR	Recalculated %R/RPD/%D	Reported %R/RPD/%D	Acceptable (Y/N)
LCS	LCS	Fe	110.4	1000	11.04	110	Y
8	MS	As	118.691	100	118.691	119	Y
10	Duplicate	Na	42.61	45.074	5.620181561	5.63	Y
1	PDS	Cr	42.831	40	107.0775	107	Y
1	Serial dilution	Ca	120.85	121.6	0.616776316	0.6	Y

VALIDATION FINDINGS CHECKLIST

Sample Calculation Verification

Reviewer:

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

Analytes were recalculated and verified using the following equation:

Concentration = (Result from raw data x Final volume x Dilution factor) / (Initial volume)

Sample ID	Analyte	Raw Data	Dilution	Initial Weight/ Volume (ml)	Final Volume (ml)	Reported Result	Recalculated Result	Acceptable (Y/N)
1	Cr (ug/L)	0.635	1	50	50	0.64	0.635	Y
1	Fe (ug/L)	0.1342	1	50	50	130	134.2	Y
1	Mg (mg/L)	47.04	1	50	50	47	47.04	Y

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 19, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018049

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-14-3**	2018049-02**	Water	06/23/20
EB-11-062320	2018049-03	Water	06/23/20
MW-21-5	2018049-04	Water	06/23/20
MW-21-4	2018049-05	Water	06/23/20
MW-21-3	2018049-06	Water	06/23/20
MW-21-2	2018049-07	Water	06/23/20
DUP-6-2Q2020	2018049-08	Water	06/23/20
MW-14-3MS	2018049-02MS	Water	06/23/20
MW-14-3MSD	2018049-02MSD	Water	06/23/20
MW-14-3DUP	2018049-02DUP	Water	06/23/20

**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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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. 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)	Chloride	0.155 mg/L	All samples in SDG 2018049
ICB/CCB	Chloride Sulfate Hexavalent chromium	0.181 mg/L 0.403 mg/L 0.000043 mg/L	All samples in SDG 2018049

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-14-3**	Hexavalent chromium	0.0001 mg/L	0.0001U mg/L
EB-11-062320	Hexavalent chromium Chloride	0.000055 mg/L 0.19 mg/L	0.000055U mg/L 0.19U mg/L
MW-21-3	Hexavalent chromium	0.00018 mg/L	0.00018U mg/L
MW-21-2	Hexavalent chromium	0.000056 mg/L	0.000056U mg/L

V. Field Blanks

Sample EB-11-062320 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration
EB-11-062320	06/23/20	Total dissolved solids Hexavalent chromium Chloride	4.7 mg/L 0.000055 mg/L 0.19 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-6-2Q2020 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-6-2Q2020	
Alkalinity, bicarbonate	350 mg/L	340 mg/L	3
Alkalinity, total	290 mg/L	280 mg/L	4
Chloride	170 mg/L	170 mg/L	0
Hexavalent chromium	0.000056 mg/L	0.00036 mg/L	146
Nitrate as N	4.6 mg/L	5.4 mg/L	16
Nitrite as N	0.39 mg/L	0.29 mg/L	29
Perchlorate	1.9 ug/L	1.8 ug/L	5
pH	7.30 pH unit	7.28 pH unit	0
Sulfate	170 mg/L	170 mg/L	0
Total dissolved solids	880 mg/L	920 mg/L	4

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 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, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2018049

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2018049

Sample	Analyte	Modified Final Concentration	A or P
MW-14-3**	Hexavalent chromium	0.0001U mg/L	A
EB-11-062320	Hexavalent chromium Chloride	0.000055U mg/L 0.19U mg/L	A
MW-21-3	Hexavalent chromium	0.00018U mg/L	A
MW-21-2	Hexavalent chromium	0.000056U mg/L	A

LDC #: 48752C6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2018049 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	SW	EB=2
VI.	Matrix Spike/Matrix Spike Duplicates	A	(8,9)
VII.	Duplicate sample analysis	A	10
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(6,7)
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-14-3**	2018049-02**	Water	06/23/20
2	EB-11-062320	2018049-03	Water	06/23/20
3	MW-21-5	2018049-04	Water	06/23/20
4	MW-21-4	2018049-05	Water	06/23/20
5	MW-21-3	2018049-06	Water	06/23/20
6	MW-21-2	2018049-07	Water	06/23/20
7	DUP-6-2Q2020	2018049-08	Water	06/23/20
8	MW-14-3MS	2018049-02MS	Water	06/23/20
9	MW-14-3MSD	2018049-02MSD	Water	06/23/20
10	MW-14-3DUP	2018049-02DUP	Water	06/23/20
11				
12				
13				
14				

Notes:

METHOD: Inorganics				
Validation Area	**Yes**	**No**	**NA**	**Comments**
I. Technical holding times				
Were all technical holding times met?	X			
II. Calibration				
Were all instruments calibrated at the required frequency?	X			
Were the proper number of standards used?	X			
Were all initial and continuing calibration verifications within the QC limits?	X			
Were all initial calibration correlation coefficients within limits as specifed by the method?	X			
Were balance checks performed as required?	X			
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks?	X			
Was there contamination in the initial and continuing calibration blanks?	X			
IV. Matrix Spike/Matrix Spike Duplicates/Laboratory Duplicates				
Were MS/MSD recoveries within the QC limits? (If the sample concentration exceeded the spike concentration by a factor of 4, no action was taken.)	X			
Were the MS/MSD or laboratory duplicate relative percent differences (RPDs) within the QC limits?	X			
V. Laboratory Control Samples				
Was a LCS analyzed for each batch in the SDG?	X			
Were the LCS recoveries and RPDs (if applicable) within QC limits?	X			
X. Sample Result Verification				
Were all reporting limits adjusted to reflect sample dilutions?	X			
Were all soil samples dry weight corrected?			X	
XI. Overall Assessment of Data				
Was the overall assessment of the data found to be acceptable?	X			

METHOD: Inorganics				
Validation Area	**Yes**	**No**	**NA**	**Comments**
XII. Field Duplicates				
Were field duplicates identifed in this SDG?	X			
Were target analytes detected in the field duplicates?	X			
XIII. Field Blanks				
Were field blanks identified in this SDG?	X			
Were target analytes detected in the field blanks?	X			

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 7	pH, TDS, Cr6+, Cl, NO3-N, SO4, ClO4, NO2-N, Alk
	PO4-P
QC	
10	pH, TDS, Alk
8,9,10	Cr6+, Cl, NO3-N, SO4, ClO4, NO2-N

VALIDATION FINDINGS WORKSHEET
Laboratory Blank Contamination (PB/ICB/CCB)

Reviewer: ATL

METHOD: Inorganics
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: mg/L Associated Samples: all

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**	1	2	5	6					
Cl		0.181	0.905		see below							
SO4		0.403	2.015									
Cr 6+		0.000043	0.000215	0.0001	0.000055	0.00018	0.000056					
Cl	0.155		0.775		0.19							

Comments: The listed analyte concentrtaion is the highest ICB or CCB detected in the analysis. The action level, when applicable, is establised at 5X the highest ICB, CCB, or PB concentration.

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: ATL

METHOD: Inorganics

Blank units: mg/L
Associated sample units: mg/L
Sampling Date: 6/23/20
Associated Samples: none

			Sample Identification									
Analyte	Blank ID	Blank Conc	Action Level									
TDS	2	4.7										
Cr6+		0.000055										
Cl		0.19										

Comments: The action level, when applicable, is establised at 5X the highest concentration.

Field Duplicates

METHOD: Inorganics

Analyte	Concentration (mg/L)		RPD	Qualifiers (Parents Only)
	6	7		
Alkalinity Bicabonate	350	340	3	
Alkalinity Total	290	280	4	
Chloride	170	170	0	
Hexavalent Chromium	0.000056	0.00036	146	
Nitrate-N	4.6	5.4	16	
Nitrite-N	0.39	0.29	29	
Perchlorate (ug/L)	1.9	1.8	5	
pH (pH unit)	7.30	7.28	0	
Sulfate	170	170	0	
Total Dissolved Solids	880	920	4	

LDC #: 48752C6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: ATL
2nd Reviewer:

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of NO2 was recalculated. Calibration date: 06/05/20

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

%R = Found X 100 / 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. (mg/L)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	NO2	s1	0.0	0.00638	*0.99997*	*0.99997*	Y
		s2	0.02	0.01806			
		s3	0.05	0.0343			
		s4	0.1	0.06053			
		s5	0.5	0.28111			
		s6	1	0.5494			
Calibration verification	NO3-N	4.975	5		99.5	99.5	Y
Calibration verification	Cr6+	24.104	25		96.416	96.4	Y
Calibration verification	ClO4-	9.09	10		90.9	91.9	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.

METHOD: Inorganics

Percent recoveries (%R) for the laboratory control sample (LCS) and matrix spike (MS) were recalcuated using the following formula:
%R = (Found/True) x 100
Found = concentration of each analyte measured in the analysis. For the MS calculation, Found = SSR (Spiked Sample Result) - SR (Sample Result)
True = concentration of each analyte in the source
The sample and duplicate relative percent difference (RPD) was recalculated using the following formula:
RPD = (Absolute value(S-D)x 200) / (S+D)
S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found/S	True/D	Recalculated %R/RPD	Reported %R/RPD	Acceptable (Y/N)
LCS	LCS	Alk	96.064	100	96.064	96.2	Y
8	MS	NO3-N	5.183	5.0505	102.6235026	103	Y
10	Duplicate	TDS	750	736.66	1.794626882	1.79	Y

METHOD: Inorganics

Analytes were recalculated and verified using the following equation:

Concentration = (Result from raw data x Final volume x Dilution factor) / (Percent solids (if applicable) x Initial weight or volume)

Sample ID	Analyte	Raw Data (mg/L)	Dilution	Initial Weight/ Volume (ml)	Final Volume (ml)	Percent solids (%)	Reported Result (mg/L)	Recalculated Result (mg/L)	Acceptable (Y/N)
4	pH (pH Units)	7.75	1	25	25	100	7.75	7.75	Y
4	TDS	221	3.33	100	100	100	740	735.93	Y
4	Cr6+	0.1039	1	20	20	100	0.0001	0.0001039	Y
4	SO4	163.757	1	20	20	100	160	163.757	Y
4	ClO4- (ppb)	6.364	1	20	20	100	6	6.364	Y
4	NO2-N	0.39	1	20	20	100	0.39	0.39	Y
4	Alk Bicarbonate	272.5968	1	25	25	100	270	272.5968	Y

NASA JPL, 2Q2020 - LDC# 48752C

SDG: 2018049

Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-6-2Q2020	2018049-08	pH	6/25/2020	7.28	Y	y	v		0.05	0.05	pH Units
EB-11-062320	2018049-03	pH	6/25/2020	6.59	Y	y	v		0.05	0.05	pH Units
MW-14-3	2018049-02	pH	6/25/2020	7.75	Y	y	v		0.05	0.05	pH Units
MW-21-2	2018049-07	pH	6/25/2020	7.3	Y	y	v		0.05	0.05	pH Units
MW-21-3	2018049-06	pH	6/25/2020	7.34	Y	y	v		0.05	0.05	pH Units
MW-21-4	2018049-05	pH	6/25/2020	7.62	Y	y	v		0.05	0.05	pH Units
MW-21-5	2018049-04	pH	6/25/2020	8.01	Y	y	v		0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-6-2Q2020	2018049-08	Total Dissolved Solids @ 180 C	6/25/2020	920	Y	y	v		50	25	mg/L
EB-11-062320	2018049-03	Total Dissolved Solids @ 180 C	6/25/2020	4.7	Y	y	v j		6.7	3.3	mg/L
MW-14-3	2018049-02	Total Dissolved Solids @ 180 C	6/25/2020	740	Y	y	v		33	17	mg/L
MW-21-2	2018049-07	Total Dissolved Solids @ 180 C	6/25/2020	880	Y	y	v		50	25	mg/L
MW-21-3	2018049-06	Total Dissolved Solids @ 180 C	6/25/2020	820	Y	y	v		50	25	mg/L
MW-21-4	2018049-05	Total Dissolved Solids @ 180 C	6/25/2020	640	Y	y	v		33	17	mg/L
MW-21-5	2018049-04	Total Dissolved Solids @ 180 C	6/25/2020	540	Y	y	v		33	17	mg/L

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-6-2Q2020	2018049-08	Total Recoverable Iron	6/30/2020	110	Y	y	v		50	30	ug/L
DUP-6-2Q2020	2018049-08	Total Recoverable Potassium	6/30/2020	3	Y	y	v		1.0	0.10	mg/L
DUP-6-2Q2020	2018049-08	Total Recoverable Sodium	6/30/2020	56	Y	y	v		0.50	0.051	mg/L
DUP-6-2Q2020	2018049-08	Total Recoverable Magnesium	6/30/2020	49	Y	y	v		0.050	0.019	mg/L
DUP-6-2Q2020	2018049-08	Total Recoverable Calcium	6/30/2020	160	Y	y	v		0.10	0.014	mg/L

SDG: 2018049

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-11-062320	2018049-03	Total Recoverable Calcium	6/30/2020	0.097	Y	y	v j		0.10	0.014	mg/L
EB-11-062320	2018049-03	Total Recoverable Potassium	6/30/2020	1	Y	n	u		1.0	0.10	mg/L
EB-11-062320	2018049-03	Total Recoverable Magnesium	6/30/2020	0.03	Y	y	v j		0.050	0.019	mg/L
EB-11-062320	2018049-03	Total Recoverable Iron	6/30/2020	50	Y	n	u		50	30	ug/L
EB-11-062320	2018049-03	Total Recoverable Sodium	6/30/2020	0.24	Y	y	v j		0.50	0.051	mg/L
MW-14-3	2018049-02	Total Recoverable Calcium	6/30/2020	120	Y	y	v		0.10	0.014	mg/L
MW-14-3	2018049-02	Total Recoverable Iron	6/30/2020	130	Y	y	v		50	30	ug/L
MW-14-3	2018049-02	Total Recoverable Potassium	6/30/2020	3	Y	y	v		1.0	0.10	mg/L
MW-14-3	2018049-02	Total Recoverable Magnesium	6/30/2020	47	Y	y	v		0.050	0.019	mg/L
MW-14-3	2018049-02	Total Recoverable Sodium	6/30/2020	45	Y	y	v		0.50	0.051	mg/L
MW-21-2	2018049-07	Total Recoverable Calcium	6/30/2020	160	Y	y	v		0.10	0.014	mg/L
MW-21-2	2018049-07	Total Recoverable Sodium	6/30/2020	58	Y	y	v		0.50	0.051	mg/L
MW-21-2	2018049-07	Total Recoverable Magnesium	6/30/2020	51	Y	y	v		0.050	0.019	mg/L
MW-21-2	2018049-07	Total Recoverable Iron	6/30/2020	380	Y	y	v		50	30	ug/L
MW-21-2	2018049-07	Total Recoverable Potassium	6/30/2020	3	Y	y	v		1.0	0.10	mg/L
MW-21-3	2018049-06	Total Recoverable Calcium	6/30/2020	140	Y	y	v		0.10	0.014	mg/L
MW-21-3	2018049-06	Total Recoverable Sodium	6/30/2020	58	Y	y	v		0.50	0.051	mg/L
MW-21-3	2018049-06	Total Recoverable Magnesium	6/30/2020	42	Y	y	v		0.050	0.019	mg/L
MW-21-3	2018049-06	Total Recoverable Potassium	6/30/2020	3.4	Y	y	v		1.0	0.10	mg/L
MW-21-3	2018049-06	Total Recoverable Iron	6/30/2020	480	Y	y	v		50	30	ug/L
MW-21-4	2018049-05	Total Recoverable Potassium	6/30/2020	2.6	Y	y	v		1.0	0.10	mg/L
MW-21-4	2018049-05	Total Recoverable Iron	6/30/2020	63	Y	y	v		50	30	ug/L
MW-21-4	2018049-05	Total Recoverable Sodium	6/30/2020	34	Y	y	v		0.50	0.051	mg/L
MW-21-4	2018049-05	Total Recoverable Calcium	6/30/2020	110	Y	y	v		0.10	0.014	mg/L
MW-21-4	2018049-05	Total Recoverable Magnesium	6/30/2020	33	Y	y	v		0.050	0.019	mg/L

SDG: 2018049

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-5	2018049-04	Total Recoverable Sodium	6/30/2020	36	Y	y	v		0.50	0.051	mg/L
MW-21-5	2018049-04	Total Recoverable Iron	6/30/2020	260	Y	y	v		50	30	ug/L
MW-21-5	2018049-04	Total Recoverable Calcium	6/30/2020	87	Y	y	v		0.10	0.014	mg/L
MW-21-5	2018049-04	Total Recoverable Magnesium	6/30/2020	26	Y	y	v		0.050	0.019	mg/L
MW-21-5	2018049-04	Total Recoverable Potassium	6/30/2020	2.5	Y	y	v		1.0	0.10	mg/L

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-6-2Q2020	2018049-08	Total Recoverable Chromium	6/26/2020	0.88	Y	y	v j		3.0	0.50	ug/L
DUP-6-2Q2020	2018049-08	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
DUP-6-2Q2020	2018049-08	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
EB-11-062320	2018049-03	Total Recoverable Chromium	6/26/2020	3	Y	n	u		3.0	0.50	ug/L
EB-11-062320	2018049-03	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
EB-11-062320	2018049-03	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-14-3	2018049-02	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
MW-14-3	2018049-02	Total Recoverable Chromium	6/26/2020	0.64	Y	y	v j		3.0	0.50	ug/L
MW-14-3	2018049-02	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-21-2	2018049-07	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-21-2	2018049-07	Total Recoverable Chromium	6/26/2020	7	Y	y	v		3.0	0.50	ug/L
MW-21-2	2018049-07	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L
MW-21-3	2018049-06	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-21-3	2018049-06	Total Recoverable Chromium	6/26/2020	7.6	Y	y	v		3.0	0.50	ug/L
MW-21-3	2018049-06	Total Recoverable Lead	6/26/2020	0.12	Y	y	v j		1.0	0.10	ug/L
MW-21-4	2018049-05	Total Recoverable Arsenic	6/26/2020	2	Y	n	u		2.0	0.70	ug/L
MW-21-4	2018049-05	Total Recoverable Lead	6/26/2020	1	Y	n	u		1.0	0.10	ug/L

SDG: 2018049

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-21-4	2018049-05	Total Recoverable Chromium	6/26/2020	1.4	Y	y	v j		3.0	0.50	ug/L
MW-21-5	2018049-04	Total Recoverable Lead	6/26/2020	0.2	Y	y	v j		1.0	0.10	ug/L
MW-21-5	2018049-04	Total Recoverable Arsenic	6/26/2020	1.2	Y	y	v j	U	2.0	0.70	ug/L
MW-21-5	2018049-04	Total Recoverable Chromium	6/26/2020	4.8	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
DUP-6-2Q2020	2018049-08	Hexavalent Chromium	6/25/2020	######	Y	y	v		0.0002	0.0000	mg/L
EB-11-062320	2018049-03	Hexavalent Chromium	6/25/2020	######	Y	y	v j	U	0.0002	0.0000	mg/L
MW-14-3	2018049-02	Hexavalent Chromium	6/25/2020	0.0001	Y	y	v j	U	0.0002	0.0000	mg/L
MW-21-2	2018049-07	Hexavalent Chromium	6/25/2020	######	Y	y	v j	U	0.0002	0.0000	mg/L
MW-21-3	2018049-06	Hexavalent Chromium	6/25/2020	######	Y	y	v j	U	0.0002	0.0000	mg/L
MW-21-4	2018049-05	Hexavalent Chromium	6/25/2020	0.0012	Y	y	v		0.0002	0.0000	mg/L
MW-21-5	2018049-04	Hexavalent Chromium	6/25/2020	0.0012	Y	y	v		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
DUP-6-2Q2020	2018049-08	Nitrate as N	6/24/2020	5.4	Y	y	v		0.10	0.024	mg/L
DUP-6-2Q2020	2018049-08	Sulfate	6/24/2020	170	Y	y	v		1.0	0.14	mg/L
DUP-6-2Q2020	2018049-08	Chloride	6/24/2020	170	Y	y	v		0.50	0.13	mg/L
EB-11-062320	2018049-03	Nitrate as N	6/24/2020	0.1	Y	n	u		0.10	0.024	mg/L
EB-11-062320	2018049-03	Sulfate	6/24/2020	1	Y	n	u		1.0	0.14	mg/L
EB-11-062320	2018049-03	Chloride	6/24/2020	0.19	Y	y	v j	U	0.50	0.13	mg/L
MW-14-3	2018049-02	Chloride	6/23/2020	100	Y	y	v		0.50	0.13	mg/L
MW-14-3	2018049-02	Nitrate as N	6/23/2020	12	Y	y	v		0.10	0.024	mg/L
MW-14-3	2018049-02	Sulfate	6/23/2020	160	Y	y	v		1.0	0.14	mg/L

SDG: 2018049

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-21-2	2018049-07	Chloride	6/23/2020	170	Y	y	v		0.50	0.13	mg/L
MW-21-2	2018049-07	Nitrate as N	6/23/2020	4.6	Y	y	v		0.10	0.024	mg/L
MW-21-2	2018049-07	Sulfate	6/23/2020	170	Y	y	v		1.0	0.14	mg/L
MW-21-3	2018049-06	Chloride	6/23/2020	130	Y	y	v		0.50	0.13	mg/L
MW-21-3	2018049-06	Sulfate	6/23/2020	160	Y	y	v		1.0	0.14	mg/L
MW-21-3	2018049-06	Nitrate as N	6/23/2020	9.7	Y	y	v		0.10	0.024	mg/L
MW-21-4	2018049-05	Sulfate	6/23/2020	140	Y	y	v		1.0	0.14	mg/L
MW-21-4	2018049-05	Nitrate as N	6/23/2020	8.4	Y	y	v		0.10	0.024	mg/L
MW-21-4	2018049-05	Chloride	6/23/2020	96	Y	y	v		0.50	0.13	mg/L
MW-21-5	2018049-04	Sulfate	6/23/2020	120	Y	y	v		1.0	0.14	mg/L
MW-21-5	2018049-04	Nitrate as N	6/23/2020	6.9	Y	y	v		0.10	0.024	mg/L
MW-21-5	2018049-04	Chloride	6/23/2020	75	Y	y	v		0.50	0.13	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
DUP-6-2Q2020	2018049-08	Perchlorate	7/1/2020	1.8	Y	y	v j		4.0	0.81	ug/L
EB-11-062320	2018049-03	Perchlorate	7/1/2020	4	Y	n	u		4.0	0.81	ug/L
MW-14-3	2018049-02	Perchlorate	7/1/2020	6	Y	y	v		4.0	0.81	ug/L
MW-21-2	2018049-07	Perchlorate	7/1/2020	1.9	Y	y	v j		4.0	0.81	ug/L
MW-21-3	2018049-06	Perchlorate	7/1/2020	3.2	Y	y	v j		4.0	0.81	ug/L
MW-21-4	2018049-05	Perchlorate	7/1/2020	3.7	Y	y	v j		4.0	0.81	ug/L
MW-21-5	2018049-04	Perchlorate	7/1/2020	2.4	Y	y	v j		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
DUP-6-2Q2020	2018049-08	Nitrite as N	6/23/2020	0.29	Y	y	v		0.050	0.010	mg/L

SDG: 2018049

Analytical Method EPA-353.2

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
EB-11-062320	2018049-03	Nitrite as N	6/23/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-14-3	2018049-02	Nitrite as N	6/23/2020	0.39	Y	y	v		0.050	0.010	mg/L
MW-21-2	2018049-07	Nitrite as N	6/23/2020	0.39	Y	y	v		0.050	0.010	mg/L
MW-21-3	2018049-06	Nitrite as N	6/23/2020	0.082	Y	y	v		0.050	0.010	mg/L
MW-21-4	2018049-05	Nitrite as N	6/23/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-21-5	2018049-04	Nitrite as N	6/23/2020	0.05	Y	n	u		0.050	0.010	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
DUP-6-2Q2020	2018049-08	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-2Q2020	2018049-08	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
DUP-6-2Q2020	2018049-08	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
DUP-6-2Q2020	2018049-08	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-2Q2020	2018049-08	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-2Q2020	2018049-08	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-2Q2020	2018049-08	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-2Q2020	2018049-08	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-2Q2020	2018049-08	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-2Q2020	2018049-08	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-6-2Q2020	2018049-08	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
DUP-6-2Q2020	2018049-08	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
DUP-6-2Q2020	2018049-08	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
DUP-6-2Q2020	2018049-08	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-6-2Q2020	2018049-08	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-6-2Q2020	2018049-08	Chloroethane	6/24/2020	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
DUP-6-2Q2020	2018049-08	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-2Q2020	2018049-08	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-2Q2020	2018049-08	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-6-2Q2020	2018049-08	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-6-2Q2020	2018049-08	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-2Q2020	2018049-08	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
DUP-6-2Q2020	2018049-08	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
DUP-6-2Q2020	2018049-08	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-6-2Q2020	2018049-08	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-6-2Q2020	2018049-08	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-2Q2020	2018049-08	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-6-2Q2020	2018049-08	Chloroform	6/24/2020	0.42	Y	y	v j		0.50	0.14	ug/L
DUP-6-2Q2020	2018049-08	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-2Q2020	2018049-08	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-2Q2020	2018049-08	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-2Q2020	2018049-08	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-2Q2020	2018049-08	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-2Q2020	2018049-08	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-2Q2020	2018049-08	Tetrachloroethene	6/24/2020	1.8	Y	y	v		0.50	0.23	ug/L
DUP-6-2Q2020	2018049-08	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-2Q2020	2018049-08	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
DUP-6-2Q2020	2018049-08	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-6-2Q2020	2018049-08	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
DUP-6-2Q2020	2018049-08	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-6-2Q2020	2018049-08	Methyl t-butyl ether	6/24/2020	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
DUP-6-2Q2020	2018049-08	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
DUP-6-2Q2020	2018049-08	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-2Q2020	2018049-08	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-2Q2020	2018049-08	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
DUP-6-2Q2020	2018049-08	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-2Q2020	2018049-08	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-6-2Q2020	2018049-08	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-2Q2020	2018049-08	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-2Q2020	2018049-08	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-6-2Q2020	2018049-08	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-6-2Q2020	2018049-08	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
DUP-6-2Q2020	2018049-08	Trichloroethene	6/24/2020	0.22	Y	y	v j		0.50	0.19	ug/L
DUP-6-2Q2020	2018049-08	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
DUP-6-2Q2020	2018049-08	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
DUP-6-2Q2020	2018049-08	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
DUP-6-2Q2020	2018049-08	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
DUP-6-2Q2020	2018049-08	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
DUP-6-2Q2020	2018049-08	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
DUP-6-2Q2020	2018049-08	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
DUP-6-2Q2020	2018049-08	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
DUP-6-2Q2020	2018049-08	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
DUP-6-2Q2020	2018049-08	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
DUP-6-2Q2020	2018049-08	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
DUP-6-2Q2020	2018049-08	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
DUP-6-2Q2020	2018049-08	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L

SDG: 2018049

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-6-2Q2020	2018049-08	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
DUP-6-2Q2020	2018049-08	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
DUP-6-2Q2020	2018049-08	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
DUP-6-2Q2020	2018049-08	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
DUP-6-2Q2020	2018049-08	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
DUP-6-2Q2020	2018049-08	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
DUP-6-2Q2020	2018049-08	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-2Q2020	2018049-08	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
DUP-6-2Q2020	2018049-08	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
DUP-6-2Q2020	2018049-08	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
DUP-6-2Q2020	2018049-08	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
DUP-6-2Q2020	2018049-08	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
DUP-6-2Q2020	2018049-08	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
DUP-6-2Q2020	2018049-08	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
DUP-6-2Q2020	2018049-08	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
DUP-6-2Q2020	2018049-08	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
DUP-6-2Q2020	2018049-08	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
DUP-6-2Q2020	2018049-08	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
DUP-6-2Q2020	2018049-08	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
DUP-6-2Q2020	2018049-08	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
DUP-6-2Q2020	2018049-08	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
EB-11-062320	2018049-03	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-11-062320	2018049-03	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
EB-11-062320	2018049-03	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	sec-Butylbenzene	6/24/2020	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
EB-11-062320	2018049-03	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-11-062320	2018049-03	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-11-062320	2018049-03	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-11-062320	2018049-03	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-11-062320	2018049-03	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-11-062320	2018049-03	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
EB-11-062320	2018049-03	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
EB-11-062320	2018049-03	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
EB-11-062320	2018049-03	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-11-062320	2018049-03	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
EB-11-062320	2018049-03	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
EB-11-062320	2018049-03	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
EB-11-062320	2018049-03	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-11-062320	2018049-03	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-11-062320	2018049-03	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-11-062320	2018049-03	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-11-062320	2018049-03	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
EB-11-062320	2018049-03	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-11-062320	2018049-03	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-11-062320	2018049-03	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-11-062320	2018049-03	1,4-Dichlorobenzene	6/24/2020	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-11-062320	2018049-03	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
EB-11-062320	2018049-03	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-11-062320	2018049-03	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-11-062320	2018049-03	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-11-062320	2018049-03	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-11-062320	2018049-03	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-11-062320	2018049-03	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
EB-11-062320	2018049-03	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-11-062320	2018049-03	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
EB-11-062320	2018049-03	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
EB-11-062320	2018049-03	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
EB-11-062320	2018049-03	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
EB-11-062320	2018049-03	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-11-062320	2018049-03	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
EB-11-062320	2018049-03	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
EB-11-062320	2018049-03	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
EB-11-062320	2018049-03	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
EB-11-062320	2018049-03	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
EB-11-062320	2018049-03	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
EB-11-062320	2018049-03	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
EB-11-062320	2018049-03	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
EB-11-062320	2018049-03	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
EB-11-062320	2018049-03	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
EB-11-062320	2018049-03	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
EB-11-062320	2018049-03	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L

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EB-11-062320	2018049-03	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
EB-11-062320	2018049-03	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
EB-11-062320	2018049-03	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
EB-11-062320	2018049-03	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-11-062320	2018049-03	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-11-062320	2018049-03	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-11-062320	2018049-03	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
EB-11-062320	2018049-03	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
EB-11-062320	2018049-03	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
EB-11-062320	2018049-03	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
EB-11-062320	2018049-03	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
EB-11-062320	2018049-03	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-11-062320	2018049-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-11-062320	2018049-03	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
EB-11-062320	2018049-03	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-11-062320	2018049-03	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-11-062320	2018049-03	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-11-062320	2018049-03	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
EB-11-062320	2018049-03	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
EB-11-062320	2018049-03	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
EB-11-062320	2018049-03	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
EB-11-062320	2018049-03	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L

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EB-11-062320	2018049-03	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-11-062320	2018049-03	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-11-062320	2018049-03	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
EB-11-062320	2018049-03	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
EB-11-062320	2018049-03	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
EB-11-062320	2018049-03	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
EB-11-062320	2018049-03	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
EB-11-062320	2018049-03	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-3	2018049-02	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-14-3	2018049-02	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-14-3	2018049-02	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-14-3	2018049-02	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-3	2018049-02	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-3	2018049-02	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-14-3	2018049-02	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-14-3	2018049-02	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-3	2018049-02	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-14-3	2018049-02	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-3	2018049-02	Chloroform	6/24/2020	0.85	Y	y	v		0.50	0.14	ug/L
MW-14-3	2018049-02	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-14-3	2018049-02	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-3	2018049-02	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-3	2018049-02	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-3	2018049-02	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-3	2018049-02	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L

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MW-14-3	2018049-02	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-3	2018049-02	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-14-3	2018049-02	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-14-3	2018049-02	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-14-3	2018049-02	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-3	2018049-02	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-3	2018049-02	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-3	2018049-02	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-3	2018049-02	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-3	2018049-02	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-3	2018049-02	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-3	2018049-02	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-3	2018049-02	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-14-3	2018049-02	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-14-3	2018049-02	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-14-3	2018049-02	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-14-3	2018049-02	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-14-3	2018049-02	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-14-3	2018049-02	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-14-3	2018049-02	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-14-3	2018049-02	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-14-3	2018049-02	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-3	2018049-02	1,1-Dichloroethane	6/24/2020	0.65	Y	y	v		0.50	0.15	ug/L
MW-14-3	2018049-02	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-3	2018049-02	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L

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MW-14-3	2018049-02	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-14-3	2018049-02	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-14-3	2018049-02	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-14-3	2018049-02	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-14-3	2018049-02	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-14-3	2018049-02	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-14-3	2018049-02	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-14-3	2018049-02	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-3	2018049-02	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-14-3	2018049-02	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-14-3	2018049-02	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-14-3	2018049-02	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-14-3	2018049-02	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-14-3	2018049-02	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-14-3	2018049-02	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-14-3	2018049-02	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-3	2018049-02	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-3	2018049-02	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-3	2018049-02	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-14-3	2018049-02	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-14-3	2018049-02	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-3	2018049-02	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-3	2018049-02	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-3	2018049-02	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-14-3	2018049-02	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-14-3	2018049-02	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-3	2018049-02	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-3	2018049-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-3	2018049-02	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-14-3	2018049-02	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-14-3	2018049-02	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-14-3	2018049-02	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-3	2018049-02	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-14-3	2018049-02	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-3	2018049-02	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-14-3	2018049-02	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-14-3	2018049-02	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-3	2018049-02	1,2,3-Trichlorobenzene	6/24/2020	0.19	Y	y	v j		0.50	0.19	ug/L
MW-14-3	2018049-02	Trichloroethene	6/24/2020	1.9	Y	y	v		0.50	0.19	ug/L
MW-14-3	2018049-02	Tetrachloroethene	6/24/2020	1.1	Y	y	v		0.50	0.23	ug/L
MW-14-3	2018049-02	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-14-3	2018049-02	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-14-3	2018049-02	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-14-3	2018049-02	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-14-3	2018049-02	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-2	2018049-07	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-21-2	2018049-07	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-21-2	2018049-07	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-2	2018049-07	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-21-2	2018049-07	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L

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MW-21-2	2018049-07	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-21-2	2018049-07	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-21-2	2018049-07	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-2	2018049-07	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-21-2	2018049-07	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-21-2	2018049-07	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2018049-07	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-2	2018049-07	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-21-2	2018049-07	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-21-2	2018049-07	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-21-2	2018049-07	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-21-2	2018049-07	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2018049-07	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2018049-07	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-21-2	2018049-07	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-21-2	2018049-07	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-21-2	2018049-07	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-21-2	2018049-07	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-21-2	2018049-07	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-21-2	2018049-07	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-21-2	2018049-07	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-21-2	2018049-07	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-21-2	2018049-07	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-21-2	2018049-07	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-21-2	2018049-07	Methyl iodide	6/24/2020	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-21-2	2018049-07	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-21-2	2018049-07	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-2	2018049-07	Chloroform	6/24/2020	0.47	Y	y	v j		0.50	0.14	ug/L
MW-21-2	2018049-07	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2018049-07	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2018049-07	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2018049-07	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2018049-07	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-2	2018049-07	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2018049-07	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-21-2	2018049-07	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-2	2018049-07	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-21-2	2018049-07	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-2	2018049-07	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-21-2	2018049-07	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-2	2018049-07	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-2	2018049-07	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-2	2018049-07	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2018049-07	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2018049-07	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-2	2018049-07	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-21-2	2018049-07	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2018049-07	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-2	2018049-07	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-2	2018049-07	Carbon tetrachloride	6/24/2020	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-21-2	2018049-07	Trichloroethene	6/24/2020	0.27	Y	y	v j		0.50	0.19	ug/L
MW-21-2	2018049-07	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-2	2018049-07	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-2	2018049-07	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2018049-07	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2018049-07	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-21-2	2018049-07	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2018049-07	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2018049-07	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-21-2	2018049-07	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-2	2018049-07	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2018049-07	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-2	2018049-07	Tetrachloroethene	6/24/2020	2	Y	y	v		0.50	0.23	ug/L
MW-21-2	2018049-07	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2018049-07	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-2	2018049-07	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-2	2018049-07	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-2	2018049-07	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-2	2018049-07	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-2	2018049-07	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-2	2018049-07	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-2	2018049-07	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2018049-07	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2018049-07	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2018049-07	trans-1,3-Dichloropropene	6/24/2020	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-21-2	2018049-07	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2018049-07	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-2	2018049-07	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-2	2018049-07	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-2	2018049-07	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2018049-07	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-2	2018049-07	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2018049-06	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-3	2018049-06	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-3	2018049-06	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2018049-06	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-3	2018049-06	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-21-3	2018049-06	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2018049-06	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-3	2018049-06	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-21-3	2018049-06	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2018049-06	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2018049-06	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-3	2018049-06	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2018049-06	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2018049-06	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-3	2018049-06	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-21-3	2018049-06	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-3	2018049-06	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-3	2018049-06	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L

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MW-21-3	2018049-06	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2018049-06	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2018049-06	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2018049-06	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2018049-06	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-21-3	2018049-06	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-21-3	2018049-06	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-21-3	2018049-06	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-3	2018049-06	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2018049-06	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-21-3	2018049-06	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-21-3	2018049-06	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2018049-06	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-3	2018049-06	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-3	2018049-06	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2018049-06	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2018049-06	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2018049-06	Chloroform	6/24/2020	0.71	Y	y	v		0.50	0.14	ug/L
MW-21-3	2018049-06	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-3	2018049-06	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-3	2018049-06	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-21-3	2018049-06	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-21-3	2018049-06	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-21-3	2018049-06	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-3	2018049-06	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	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-21-3	2018049-06	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-21-3	2018049-06	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-21-3	2018049-06	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-21-3	2018049-06	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-21-3	2018049-06	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-21-3	2018049-06	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-3	2018049-06	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-21-3	2018049-06	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-21-3	2018049-06	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-3	2018049-06	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-21-3	2018049-06	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-21-3	2018049-06	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-21-3	2018049-06	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-21-3	2018049-06	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-21-3	2018049-06	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-21-3	2018049-06	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-21-3	2018049-06	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-3	2018049-06	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-21-3	2018049-06	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-21-3	2018049-06	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-21-3	2018049-06	Tetrachloroethene	6/24/2020	2.3	Y	y	v		0.50	0.23	ug/L
MW-21-3	2018049-06	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2018049-06	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-21-3	2018049-06	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-3	2018049-06	Isopropylbenzene	6/24/2020	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-21-3	2018049-06	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2018049-06	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2018049-06	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2018049-06	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-3	2018049-06	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-3	2018049-06	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-3	2018049-06	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-21-3	2018049-06	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2018049-06	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-3	2018049-06	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-3	2018049-06	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-3	2018049-06	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-3	2018049-06	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2018049-06	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-3	2018049-06	Trichloroethene	6/24/2020	2	Y	y	v		0.50	0.19	ug/L
MW-21-3	2018049-06	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2018049-06	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-3	2018049-06	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-3	2018049-06	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2018049-05	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-21-4	2018049-05	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-4	2018049-05	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2018049-05	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2018049-05	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2018049-05	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L

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MW-21-4	2018049-05	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-4	2018049-05	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-4	2018049-05	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2018049-05	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2018049-05	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-4	2018049-05	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-4	2018049-05	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-21-4	2018049-05	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2018049-05	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-4	2018049-05	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2018049-05	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-4	2018049-05	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2018049-05	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2018049-05	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2018049-05	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-21-4	2018049-05	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-4	2018049-05	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2018049-05	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-4	2018049-05	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2018049-05	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-4	2018049-05	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-4	2018049-05	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-21-4	2018049-05	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-21-4	2018049-05	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2018049-05	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L

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MW-21-4	2018049-05	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-4	2018049-05	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2018049-05	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2018049-05	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2018049-05	Chloroform	6/24/2020	7.8	Y	y	v		0.50	0.14	ug/L
MW-21-4	2018049-05	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-4	2018049-05	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2018049-05	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-21-4	2018049-05	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-4	2018049-05	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-21-4	2018049-05	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-4	2018049-05	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-4	2018049-05	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-4	2018049-05	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-21-4	2018049-05	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2018049-05	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-21-4	2018049-05	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-21-4	2018049-05	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-4	2018049-05	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-21-4	2018049-05	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-21-4	2018049-05	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-21-4	2018049-05	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-21-4	2018049-05	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-21-4	2018049-05	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-21-4	2018049-05	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L

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MW-21-4	2018049-05	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-21-4	2018049-05	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-21-4	2018049-05	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-4	2018049-05	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-21-4	2018049-05	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-21-4	2018049-05	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L
MW-21-4	2018049-05	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-21-4	2018049-05	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-21-4	2018049-05	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-21-4	2018049-05	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-4	2018049-05	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-4	2018049-05	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2018049-05	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2018049-05	Tetrachloroethene	6/24/2020	2.6	Y	y	v		0.50	0.23	ug/L
MW-21-4	2018049-05	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2018049-05	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-4	2018049-05	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-4	2018049-05	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-4	2018049-05	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-21-4	2018049-05	Trichloroethene	6/24/2020	0.81	Y	y	v		0.50	0.19	ug/L
MW-21-4	2018049-05	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-21-4	2018049-05	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-21-4	2018049-05	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-4	2018049-05	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-4	2018049-05	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L

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MW-21-4	2018049-05	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-4	2018049-05	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-21-4	2018049-05	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-21-4	2018049-05	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-21-4	2018049-05	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-4	2018049-05	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2018049-04	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2018049-04	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2018049-04	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2018049-04	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2018049-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-5	2018049-04	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2018049-04	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2018049-04	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2018049-04	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2018049-04	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-5	2018049-04	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-5	2018049-04	Tetrachloroethene	6/24/2020	1.9	Y	y	v		0.50	0.23	ug/L
MW-21-5	2018049-04	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
MW-21-5	2018049-04	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2018049-04	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-5	2018049-04	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-21-5	2018049-04	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-5	2018049-04	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2018049-04	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L

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MW-21-5	2018049-04	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2018049-04	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2018049-04	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2018049-04	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
MW-21-5	2018049-04	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-5	2018049-04	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
MW-21-5	2018049-04	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-5	2018049-04	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
MW-21-5	2018049-04	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
MW-21-5	2018049-04	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
MW-21-5	2018049-04	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
MW-21-5	2018049-04	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
MW-21-5	2018049-04	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-5	2018049-04	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-5	2018049-04	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
MW-21-5	2018049-04	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
MW-21-5	2018049-04	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
MW-21-5	2018049-04	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-21-5	2018049-04	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
MW-21-5	2018049-04	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
MW-21-5	2018049-04	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-21-5	2018049-04	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
MW-21-5	2018049-04	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
MW-21-5	2018049-04	Trichloroethene	6/24/2020	0.27	Y	y	v j		0.50	0.19	ug/L
MW-21-5	2018049-04	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L

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MW-21-5	2018049-04	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2018049-04	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2018049-04	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2018049-04	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2018049-04	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-21-5	2018049-04	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-5	2018049-04	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2018049-04	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
MW-21-5	2018049-04	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-21-5	2018049-04	Chloroform	6/24/2020	9.5	Y	y	v		0.50	0.14	ug/L
MW-21-5	2018049-04	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-5	2018049-04	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
MW-21-5	2018049-04	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-5	2018049-04	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-21-5	2018049-04	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-5	2018049-04	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2018049-04	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
MW-21-5	2018049-04	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
MW-21-5	2018049-04	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
MW-21-5	2018049-04	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
MW-21-5	2018049-04	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
MW-21-5	2018049-04	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-21-5	2018049-04	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2018049-04	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-5	2018049-04	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L

SDG: 2018049

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	2018049-04	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-21-5	2018049-04	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-21-5	2018049-04	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2018049-04	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-5	2018049-04	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-21-5	2018049-04	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-21-5	2018049-04	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2018049-04	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-21-5	2018049-04	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-21-5	2018049-04	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-21-5	2018049-04	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-21-5	2018049-04	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-21-5	2018049-04	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-5	2018049-04	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-21-5	2018049-04	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
MW-21-5	2018049-04	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-21-5	2018049-04	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-21-5	2018049-04	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	Dichlorodifluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	1,4-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	1,3-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-11-062320	2018049-01	Dibromomethane	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-11-062320	2018049-01	trans-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-11-062320	2018049-01	1,2-Dibromoethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-11-062320	2018049-01	1,2-Dichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L

SDG: 2018049

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-11-062320	2018049-01	1,1-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	1,2-Dichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-11-062320	2018049-01	cis-1,2-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-11-062320	2018049-01	1,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	1,3-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-11-062320	2018049-01	1,2-Dibromo-3-chloropropane	6/24/2020	1	Y	n	u		1.0	0.89	ug/L
TB-11-062320	2018049-01	1,1-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-11-062320	2018049-01	n-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	2,2-Dichloropropane	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-11-062320	2018049-01	1,1-Dichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-11-062320	2018049-01	sec-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-11-062320	2018049-01	cis-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-11-062320	2018049-01	Vinyl chloride	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-11-062320	2018049-01	Benzene	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-11-062320	2018049-01	Bromobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	Bromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-11-062320	2018049-01	Bromodichloromethane	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-11-062320	2018049-01	tert-Butylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-11-062320	2018049-01	Bromomethane	6/24/2020	0.5	Y	n	u	UJ	0.50	0.20	ug/L
TB-11-062320	2018049-01	Dibromochloromethane	6/24/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-11-062320	2018049-01	Carbon tetrachloride	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-11-062320	2018049-01	Chlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-11-062320	2018049-01	Chloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-11-062320	2018049-01	Chloroform	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-11-062320	2018049-01	Chloromethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L

SDG: 2018049

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-11-062320	2018049-01	2-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-11-062320	2018049-01	4-Chlorotoluene	6/24/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-11-062320	2018049-01	Bromoform	6/24/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-11-062320	2018049-01	Methyl methacrylate	6/24/2020	5	Y	n	u		5.0	1.2	ug/L
TB-11-062320	2018049-01	t-Butyl alcohol	6/24/2020	10	Y	n	u		10	9.4	ug/L
TB-11-062320	2018049-01	Carbon disulfide	6/24/2020	1	Y	n	u		1.0	0.48	ug/L
TB-11-062320	2018049-01	trans-1,4-Dichloro-2-butene	6/24/2020	5	Y	n	u		5.0	1.8	ug/L
TB-11-062320	2018049-01	Diethyl ether	6/24/2020	2	Y	n	u		2.0	0.33	ug/L
TB-11-062320	2018049-01	Ethyl methacrylate	6/24/2020	4	Y	n	u		4.0	1.3	ug/L
TB-11-062320	2018049-01	Ethyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-11-062320	2018049-01	Hexachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-11-062320	2018049-01	trans-1,3-Dichloropropene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-11-062320	2018049-01	Methacrylonitrile	6/24/2020	10	Y	n	u		10	2.3	ug/L
TB-11-062320	2018049-01	1,2,4-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-11-062320	2018049-01	t-Amyl Methyl ether	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-11-062320	2018049-01	Methyl isobutyl ketone	6/24/2020	10	Y	n	u		10	2.4	ug/L
TB-11-062320	2018049-01	2-Hexanone	6/24/2020	10	Y	n	u		10	5.0	ug/L
TB-11-062320	2018049-01	Pentachloroethane	6/24/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
TB-11-062320	2018049-01	Propionitrile	6/24/2020	20	Y	n	u		20	6.2	ug/L
TB-11-062320	2018049-01	Tetrahydrofuran	6/24/2020	20	Y	n	u		20	5.2	ug/L
TB-11-062320	2018049-01	p- & m-Xylenes	6/24/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-11-062320	2018049-01	o-Xylene	6/24/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-11-062320	2018049-01	Chloroacetonitrile	6/24/2020	0	Y	y	v				ug/L
TB-11-062320	2018049-01	1-Chlorobutane	6/24/2020	0	Y	y	v				ug/L
TB-11-062320	2018049-01	1,1-Dichloropropanone	6/24/2020	0	Y	y	v				ug/L

SDG: 2018049

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-11-062320	2018049-01	Methyl acrylate	6/24/2020	0	Y	y	v				ug/L
TB-11-062320	2018049-01	Nitrobenzene	6/24/2020	0	Y	y	v				ug/L
TB-11-062320	2018049-01	2-Nitropropane	6/24/2020	0	Y	y	v				ug/L
TB-11-062320	2018049-01	Methyl iodide	6/24/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-11-062320	2018049-01	p-Isopropyltoluene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-11-062320	2018049-01	Ethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	Methyl ethyl ketone	6/24/2020	10	Y	n	u		10	3.3	ug/L
TB-11-062320	2018049-01	Isopropylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-11-062320	2018049-01	Allyl chloride	6/24/2020	5	Y	n	u		5.0	0.47	ug/L
TB-11-062320	2018049-01	Methylene chloride	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-11-062320	2018049-01	Methyl t-butyl ether	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-11-062320	2018049-01	Naphthalene	6/24/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-11-062320	2018049-01	n-Propylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-11-062320	2018049-01	Styrene	6/24/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-11-062320	2018049-01	1,1,1,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-11-062320	2018049-01	1,1,2,2-Tetrachloroethane	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-11-062320	2018049-01	Tetrachloroethene	6/24/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-11-062320	2018049-01	1,2,3-Trichloropropane	6/24/2020	1	Y	n	u		1.0	0.78	ug/L
TB-11-062320	2018049-01	Hexachlorobutadiene	6/24/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-11-062320	2018049-01	Acrylonitrile	6/24/2020	5	Y	n	u		5.0	1.5	ug/L
TB-11-062320	2018049-01	Acetone	6/24/2020	10	Y	n	u		10	6.6	ug/L
TB-11-062320	2018049-01	Toluene	6/24/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-11-062320	2018049-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-11-062320	2018049-01	Trichlorofluoromethane	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-11-062320	2018049-01	Trichloroethene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L

SDG: 2018049

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-11-062320	2018049-01	1,1,2-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-11-062320	2018049-01	1,1,1-Trichloroethane	6/24/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-11-062320	2018049-01	1,2,4-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-11-062320	2018049-01	1,2,3-Trichlorobenzene	6/24/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-11-062320	2018049-01	1,3,5-Trimethylbenzene	6/24/2020	0.5	Y	n	u		0.50	0.14	ug/L

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
DUP-6-2Q2020	2018049-08	Total Alkalinity as CaCO3	6/25/2020	280	Y	y	v		8.2	8.2	mg/L
DUP-6-2Q2020	2018049-08	Carbonate	6/25/2020	5	Y	n	u		5.0	5.0	mg/L
DUP-6-2Q2020	2018049-08	Bicarbonate	6/25/2020	340	Y	y	v		10	10	mg/L
EB-11-062320	2018049-03	Total Alkalinity as CaCO3	6/25/2020	4.1	Y	n	u		4.1	4.1	mg/L
EB-11-062320	2018049-03	Carbonate	6/25/2020	2.5	Y	n	u		2.5	2.5	mg/L
EB-11-062320	2018049-03	Bicarbonate	6/25/2020	5	Y	n	u		5.0	5.0	mg/L
MW-14-3	2018049-02	Bicarbonate	6/25/2020	270	Y	y	v		10	10	mg/L
MW-14-3	2018049-02	Carbonate	6/25/2020	5	Y	n	u		5.0	5.0	mg/L
MW-14-3	2018049-02	Total Alkalinity as CaCO3	6/25/2020	220	Y	y	v		8.2	8.2	mg/L
MW-21-2	2018049-07	Total Alkalinity as CaCO3	6/25/2020	290	Y	y	v		8.2	8.2	mg/L
MW-21-2	2018049-07	Carbonate	6/25/2020	5	Y	n	u		5.0	5.0	mg/L
MW-21-2	2018049-07	Bicarbonate	6/25/2020	350	Y	y	v		10	10	mg/L
MW-21-3	2018049-06	Bicarbonate	6/25/2020	360	Y	y	v		10	10	mg/L
MW-21-3	2018049-06	Total Alkalinity as CaCO3	6/25/2020	290	Y	y	v		8.2	8.2	mg/L
MW-21-3	2018049-06	Carbonate	6/25/2020	5	Y	n	u		5.0	5.0	mg/L
MW-21-4	2018049-05	Bicarbonate	6/25/2020	230	Y	y	v		5.0	5.0	mg/L
MW-21-4	2018049-05	Carbonate	6/25/2020	2.5	Y	n	u		2.5	2.5	mg/L

SDG: 2018049

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-21-4	2018049-05	Total Alkalinity as CaCO3	6/25/2020	180	Y	y	v		4.1	4.1	mg/L
MW-21-5	2018049-04	Bicarbonate	6/25/2020	200	Y	y	v		5.0	5.0	mg/L
MW-21-5	2018049-04	Carbonate	6/25/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-21-5	2018049-04	Total Alkalinity as CaCO3	6/25/2020	160	Y	y	v		4.1	4.1	mg/L

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 14, 2020

Parameters: Volatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018201

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-12-062420	2018201-01	Water	06/24/20
MW-5	2018201-02	Water	06/24/20
MW-10	2018201-03	Water	06/24/20
MW-13	2018201-04	Water	06/24/20

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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/18/20	Pentachloroethane	76.0	All samples in SDG 2018201	UJ (all non-detects)	P

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
06/25/20	Methyl iodide	60.1	All samples in SDG 2018201	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-12-062420 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

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

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 ICV %D and continuing calibration %D, data were qualified as estimated in four samples.

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

NASA JPL, 2Q2020
Volatiles - Data Qualification Summary - SDG 2018201

Sample	Compound	Flag	A or P	Reason
TB-12-062420 MW-5 MW-10 MW-13	Pentachloroethane	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-12-062420 MW-5 MW-10 MW-13	Methyl iodide	UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2018201

No Sample Data Qualified in this SDG

LDC #: 48752D1a

SDG #: 2018201

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/17/20

Page: 1 of 1

Reviewer: 1

2nd Reviewer:

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/W	RSD ≤ 20% . r >
IV.	Continuing calibration	W	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=1
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS
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; 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-12-062420	2018201-01	Water	06/24/20
2	MW-5	2018201-02	Water	06/24/20
3	MW-10	2018201-03	Water	06/24/20
4	MW-13	2018201-04	Water	06/24/20
5				
6				
7				
8				
9				

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.

LDC #: 48752D1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: PG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/18/20	18JUN28	ZZZZ	76.0	All (ND)	J/UJ/P

LDC #: 48752D1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: 9
2nd Reviewer: 17

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/24/20	23JUN59	B	44.7	BLK	J/UJ/P
	6/24/20	23JUN60	Methyl iodide	58.2		
	6/25/20	25JUN03	Methyl iodide	60.1	All (ND)	J/UJ/P

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 13, 2020

Parameters: Semivolatiles

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018201

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-5	2018201-02	Water	06/24/20
MW-10	2018201-03	Water	06/24/20

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:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270C

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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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, percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs) with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
06/26/20	2-Naphthylamine	67.48481	All samples in SDG 2018201	UJ (all non-detects)	A

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 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/26/20 (25JUN022)	Benzidine 2-Naphthylamine	23.1 69.4	All samples in SDG 2018201	UJ (all non-detects) UJ (all non-detects)	A
06/26/20 (25JUN024)	Hexachlorophene	38.7	All samples in SDG 2018201	UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/27/20 (26JUN003)	Benzidine	28.3	All samples in SDG 2018201	UJ (all non-detects)	A
	2-Naphthylamine	82.6		UJ (all non-detects)	
	2-Acetylaminofluorene	24.4		UJ (all non-detects)	
	Aramite	21.4		UJ (all non-detects)	
	cis-Chlordane	25.7		UJ (all non-detects)	
	trans-Chlordane	28.7		UJ (all non-detects)	
	trans-Diallate	24.3		UJ (all non-detects)	
	Diallate	22.6		UJ (all non-detects)	
	7,12-Dimethylbenz(a)anthracene	27.8		UJ (all non-detects)	
	3,3'-Dimethylbenzidine	27.5		UJ (all non-detects)	
	Dinoseb	29.1		UJ (all non-detects)	
	3-Methylchlolanthrene	28.1		UJ (all non-detects)	
	1-Naphthylamine	36.7		UJ (all non-detects)	
	4-Nitroquinoline-1-oxide	35.6		UJ (all non-detects)	
	Pentachlorobenzene	21.2		UJ (all non-detects)	
	Pronamide	25.3		UJ (all non-detects)	
	2,3,4,6-Tetrachlorophenol	28.7		UJ (all non-detects)	
	1,3,5-Trinitrobenzene	30.4		UJ (all non-detects)	
06/27/20 (26JUN005)	Hexachlorophene	52.8	All samples in SDG 2018201	UJ (all non-detects)	A

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Affected Compound	Flag	A or P
MW-5	Phenanthrene-d10	875965 (215660-862638)	N-Nitrosodiphenylamine 4-Bromophenyl-phenyl ether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene Di-n-butylphthalate Fluoranthene 4,6-Dinitro-2-methylphenol alpha-BHC beta-BHC gamma-BHC (Lindane) delta-BHC Carbazole Heptachlor Aldrin Heptachlor Epoxide Benzidine Phenacetin trans-Diallate Dimethoate Pentachloronitrobenzene 4-Aminobiphenyl Pronamide Dinoseb Disulfoton Methyl Parathion 4-Nitroquinoline-n-oxide Ethyl Parathion Methapyrilene Isodrin Kepone Famphur	NA	-

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 initial calibration %RSD, ICV %D, and continuing calibration %D, data were qualified as estimated in two samples.

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

NASA JPL, 2Q2020
Semivolatiles - Data Qualification Summary - SDG 2018201

Sample	Compound	Flag	A or P	Reason
MW-5 MW-10	2-Naphthylamine	UJ (all non-detects)	A	Initial calibration (%RSD)
MW-5 MW-10	Benzidine 2-Naphthylamine Hexachlorophene	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	A	Initial calibration verification (%D)
MW-5 MW-10	Benzidine 2-Naphthylamine 2-Acetylaminofluorene Aramite cis-Chlordane trans-Chlordane trans-Diallate Diallate 7,12-Dimethylbenz(a)anthracene 3,3'-Dimethylbenzidine Dinoseb 3-Methylchlolanthrene 1-Naphthylamine 4-Nitroquinoline-1-oxide Pentachlorobenzene Pronamide 2,3,4,6-Tetrachlorophenol 1,3,5-Trinitrobenzene Hexachlorophene	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	A	Continuing calibration (%D)

NASA JPL, 2Q2020
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 2018201

No Sample Data Qualified in this SDG

LDC #: 48752D2a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/12/20
SDG #: 2018201 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW846 Method 8270C)

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≤30%/15%, r^2 ICV≤20%
IV.	Continuing calibration	A	CCV≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
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; 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-5	2018201-02	Water	06/24/20
2	MW-10	2018201-03	Water	06/24/20
3				
4				
5				
6				
7				
8				
9				

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	CC. Dimethylphthalate	EEE. Bis(2-ethylhexyl)phthalate	GGGG. C30-Hopane	I1. Methyl methanesulfonate
B. Bis (2-chloroethyl) ether	DD. Acenaphthylene	FFF. Di-n-octylphthalate	HHHH. 1-Methylphenanthrene	J1. Ethyl methanesulfonate
C. 2-Chlorophenol	EE. 2,6-Dinitrotoluene	GGG. Benzo(b)fluoranthene	IIII. 1,4-Dioxane	K1. o,o',o"-Triethylphosphorothioate
D. 1,3-Dichlorobenzene	FF. 3-Nitroaniline	HHH. Benzo(k)fluoranthene	JJJJ. Acetophenone	L1. n-Phenylene diamine
E. 1,4-Dichlorobenzene	GG. Acenaphthene	III. Benzo(a)pyrene	KKKK. Atrazine	M1. 1,4-Naphthoquinone
F. 1,2-Dichlorobenzene	HH. 2,4-Dinitrophenol	JJJ. Indeno(1,2,3-cd)pyrene	LLLL. Benzaldehyde	N1. N-Nitro-o-toluidine
G. 2-Methylphenol	II. 4-Nitrophenol	KKK. Dibenz(a,h)anthracene	MMMM. Caprolactam	O1. 1,3,5-Trinitrobenzene
H. 2,2'-Oxybis(1-chloropropane)	JJ. Dibenzofuran	LLL. Benzo(g,h,i)perylene	NNNN. 2,6-Dichlorophenol	P1. Pentachlorobenzene
I. 4-Methylphenol	KK. 2,4-Dinitrotoluene	MMM. Bis(2-Chloroisopropyl)ether	OOOO. 1,2-Diphenylhydrazine	Q1. 4-Aminobiphenyl
J. N-Nitroso-di-n-propylamine	LL. Diethylphthalate	NNN. Aniline	PPPP. 3-Methylphenol	R1. 2-Naphthylamine
K. Hexachloroethane	MM. 4-Chlorophenyl-phenyl ether	OOO. N-Nitrosodimethylamine	QQQQ. 3&4-Methylphenol	S1. Triphenylene
L. Nitrobenzene	NN. Fluorene	PPP. Benzoic Acid	RRRR. 4-Dimethyldibenzothiophene (4MDT)	T1. Octachlorostyrene
M. Isophorone	OO. 4-Nitroaniline	QQQ. Benzyl alcohol	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	U1. Famphur
N. 2-Nitrophenol	PP. 4,6-Dinitro-2-methylphenol	RRR. Pyridine	TTTT. 1-Methyldibenzothiophene (1MDT)	V1. 1,4-phenylenediamine
O. 2,4-Dimethylphenol	QQ. N-Nitrosodiphenylamine	SSS. Benzidine	UUUU.. 2,3,4,6-Tetrachlorophenol	W1. Methapyrilene
P. Bis(2-chloroethoxy)methane	RR. 4-Bromophenyl-phenylether	TTT. 1-Methylnaphthalene	VVVV. 1,2,4,5-Tetrachlorobenzene	X1. Pentachloroethane
Q. 2,4-Dichlorophenol	SS. Hexachlorobenzene	UUU.Benzo(b)thiophene	WWWW.. 2-Picoline	Y1. 3,3'-Dimethylbenzidine
R. 1,2,4-Trichlorobenzene	TT. Pentachlorophenol	VVV.Benzonaphthothiophene	XXXX. 3-Methylcholanthrene	Z1. o-Toluidine
S. Naphthalene	UU. Phenanthrene	WWW.Benzo(e)pyrene	YYYY. a,a-Dimethylphenethylamine	A2. 1-Naphthylamine
T. 4-Chloroaniline	VV. Anthracene	XXX. 2,6-Dimethylnaphthalene	ZZZZ. Hexachloropropene	B2. 4-Aminobiphenyl
U. Hexachlorobutadiene	WW. Carbazole	YYY. 2,3,5-Trimethylnaphthalene	A1. N-Nitrosodiethylamine	C2. 4-Nitroquinoline-1-oxide
V. 4-Chloro-3-methylphenol	XX. Di-n-butylphthalate	ZZZ. Perylene	B1. N-Nitrosodi-n-butylamine	D2. Hexachloropene
W. 2-Methylnaphthalene	YY. Fluoranthene	AAAA. Dibenzothiophene	C1. N-Nitrosomethylethylamine	E2. Bis (2-chloro-1-methylethyl) ether
X. Hexachlorocyclopentadiene	ZZ. Pyrene	BBBB. Benzo(a)fluoranthene	D1. N-Nitrosomorpholine	F2. Bifenthrin
Y. 2,4,6-Trichlorophenol	AAA. Butylbenzylphthalate	CCCC. Benzo(b)fluorene	E1. N-Nitrosopyrrolidine	G2. Cyfluthrin
Z. 2,4,5-Trichlorophenol	BBB. 3,3'-Dichlorobenzidine	DDDD. cis/trans-Decalin	F1. Phenacetin	H2. Cypermethrin
AA. 2-Chloronaphthalene	CCC. Benzo(a)anthracene	EEEE. 1,1'-Biphenyl	G1. 2-Acetylaminofluorene	I2. Permethrin (cis/trans)
BB. 2-Nitroaniline	DDD. Chrysene	FFFF. Retene	H1. Pronamide	J2. 5-Nitro-o-toluidine

LDC #: 48752D2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: V
2nd Reviewer: R

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory conduct an acceptable 5 point calibration prior to sample analysis?

Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?

Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____

Y N N/A Did the initial calibration meet the acceptance criteria?

Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0/15%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/26/20	ICAL	R1	67.48481		All (ND)	J/UJ/A

LDC #: 48752D2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: V
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N N/A Were all %D within the validation criteria of ≤30 %D ?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
	6/26/20	25JUN022	SSS	23.1	All (ND)	J/UJ/A
			R1	69.4		
	6/26/20	25JUN024	Hexachlorophene	38.7		

LDC #: 48752D2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours of sample analysis for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/27/20	26JUN003	SSS	28.3		All (ND)	J/UJ/A
			R1	82.6			
			G1	24.4			
			Aramite	21.4			
			cis-Chlordane	25.7			
			trans-Chlordane	28.7			
			trans-Diallate	24.3			
			Diallate	22.6			
			7,12-Dimethylbenz(a)anthracene	27.8			
			Y1	27.5			
			Dinoseb	29.1			
			3-Methylchlolanthrene	28.1			
			A2	36.7			
			C2	35.6			
			P1	21.2			
			H1	25.3			
			UUUU	28.7			
			O1	30.4			
	6/27/20	26JUN005	Hexachlorophene	52.8			

LDC #: 48752D2a

VALIDATION FINDINGS WORKSHEET
Internal Standards

Page: 1 of 1
Reviewer: a
2nd Reviewer: F

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all internal standard area counts within -50 to +100 of the associated calibration standard?

(Y) N N/A Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

#	Date	Sample ID	Internal Standard	Area (Limits)	RT (Limits)	Qualifications
		1 CND1	PHN	875965 (215660-862638)		J dets/A

(DCB) = 1,4-Dichlorobenzene-d4
(NPT) = Naphthalene-d8
(ANT) = Acenaphthene-d10
(PHN) = Phenanthrene-d10
(CRY) = Chrysene-d12
(PRY) = Perylene-d12

Semi-Volatile Internal Standards

1,4-Dichlorobenzene-d4 (DCB)	Naphthalene-d8 (NPT)	Acenaphthene-d10 (ANT)
Phenol	Nitrobenzene	2,4,6-Trichlorophenol
Bis(2-chloroethyl)ether	Isophorone	2,4,5-Trichlorophenol
2-Chlorophenol	2-Nitrophenol	2-Chloronaphthalene
1,3-Dichlorobenzene	2,4-Dimethylphenol	2-Nitroaniline
1,4-Dichlorobenzene	Bis(2-chloroethoxy)methane	Dimethylphthalate
1,2-Dichlorobenzene	2,4-Dichlorophenol	Acenaphthylene
2-Methylphenol	Naphthalene	2,6-Dinitrotoluene
Bis(2-chloroisopropyl)ether	4-Chloroaniline	3-Nitroaniline
3+4-Methylphenol	Hexachlorobutadiene	Acenaphthene
N-Nitroso-d-n-propylamine	4-Chloro-3-methylphenol	4-Nitrophenol
Hexachoroethane	2-Methynaphthalene	Dibenzofuran
N-Nitrosodimethylamine	1,2,4-Trichlorobenzene	2,4-Dinitrotoluene
	Benzoic acid	Diethyphthalate
		4-Chlorophenylphenyl ether
		Fluorene
		4-Nitroaniline
		Hexachlorocyclopentadiene
		2,4-Dinitrophenol

Phenanthrene-d10 (PHN)	Chrysene-d12 (CRY)	Perylene-d12 (PRY)
N-Nitrosodiphenylamine	Pyrene	Benzo(b)fluoranthene
4-Bromophenyl-phenyl ether	Butylbenzylphthalate	Benzo(k)fluoranthene
Hexachlorobenzene	3,3-Dichlorobenzidine	Benzo(a)pyrene
Pentachlorophenol	Benzo(a)anthracene	Indeno(1,2,3-cd)pyrene
Phenanthrene	Chrysene	Dibenzo(a,h)anthracene
Anthracene	Bis(2-ethylhexyl)phthalate	Benzo(g,h,i)perylene
Di-n-butylphthalate	Di-n-octylphthalate	3-Methylcholanthrene
Fluoranthene		
4,6-Dinitro-2-methylphenol		
alpha-BHC		
beta-BHC		
gamma-BHC (Lindane)		
delta-BHC		
Carbazole		
Heptachlor		
Aldrin		
Heptachlor Epoxide		
Benzidine		
Phenacetin		
trans-Diallate		
Dimethoate		
Pentachloronitrobenzene		
4-Aminobiphenyl		
Pronamide		
Dinoseb		
Disulfoton		
Methyl Parathion		
4-Nitroquinoline-n-oxide		
Ethyl Parathion		
Methapyrilene		
Isodrin		
Kepone		
Famphur		

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 13, 2020

Parameters: 1,4-Dioxane

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018201

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-13	2018201-04	Water	06/24/20

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:

1,4-Dioxane by Environmental Protection Agency (EPA) SW 846 Method 8270C

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 not 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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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.

Where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

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.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. 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

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.

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

NASA JPL, 2Q2020
1,4-Dioxane - Data Qualification Summary - SDG 2018201

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 2018201

No Sample Data Qualified in this SDG

LDC #: 48752D2c
SDG #: 2018201
Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 8/4/20
Page: 1 of 1
Reviewer: 1
2nd Reviewer: 1

METHOD: GC/MS 1,4-Dioxane (EPA SW846 Method 8270C)

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	RSDs 15%, r² ICV ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
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; 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-13	2018201-04	Water	06/24/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 18, 2020

Parameters: Metals

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018201

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-5	2018201-02	Water	06/24/20
MW-10	2018201-03	Water	06/24/20
MW-13	2018201-04	Water	06/24/20
MW-13MS	2018201-04MS	Water	06/24/20
MW-13MSD	2018201-04MSD	Water	06/24/20
MW-13DUP	2018201-04DUP	Water	06/24/20

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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. 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	Chromium	0.682 ug/L	All samples in SDG 2018201
PB (prep blank)	Calcium	0.020933 mg/L	MW-5 MW-10
PB (prep blank)	Sodium	0.052169 mg/L	MW-13
ICB/CCB	Sodium	0.1016 mg/L	MW-13

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-5	Chromium	1.5 ug/L	1.5U ug/L

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. For MW-13MS/MSD, no data were qualified for calcium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration. 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 methods. 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 methods. No results were rejected in this SDG.

Due to laboratory blank contamination, data were qualified as not detected in one sample.

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2018201

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2018201

Sample	Analyte	Modified Final Concentration	A or P
MW-5	Chromium	1.5U ug/L	A

LDC #: 48752D4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2018201 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	A	(4,5):Ca > 4X
VIII.	Duplicate sample analysis	A	6
IX.	Serial Dilution	N	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	N	
XIII.	Sample Result Verification	N	
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

	Client ID	Lab ID	Matrix	Date
1	MW-5	2018201-02	Water	06/24/20
2	MW-10	2018201-03	Water	06/24/20
3	MW-13	2018201-04	Water	06/24/20
4	MW-13MS	2018201-04MS	Water	06/24/20
5	MW-13MSD	2018201-04MSD	Water	06/24/20
6	MW-13DUP	2018201-04DUP	Water	06/24/20
7				
8				
9				
10				
11				
12				
13				

Notes:

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 3	Fe, As,Cr,Pb,Ca,Mg,Na,K
QC	
4,5,6	Fe,Ca,Mg,Na,K

Analysis Method

ICP	Fe,Ca,Mg,Na,K
ICP-MS	As,Cr,Pb
CVAA	

VALIDATION FINDINGS WORKSHEET
Laboratory Blank Contamination (PB/ICB/CCB)

METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: Associated Samples: all

				Sample Identification								
Analyte	**PB (units)**	**Maximum ICB/CCB (ug/L)**	**Action Level**	1								
Cr		0.682	3.41	1.5								

Sample Concentration, unless otherwise noted: Associated Samples: 1,2

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Ca	0.020933		0.104665									

Sample Concentration, unless otherwise noted: Associated Samples: 3

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Na	0.052169		0.260845									
Na		0.1016	0.508									

Comments: The listed analyte concentrtaion is the highest ICB or CCB detected in the analysis. The action level, when applicable, is established at 5X the highest ICB, CCB, or PB concentration.

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 19, 2020

Parameters: Wet Chemistry

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018201

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-5	2018201-02	Water	06/24/20
MW-10	2018201-03	Water	06/24/20
MW-13	2018201-04	Water	06/24/20
MW-5MS	2018201-02MS	Water	06/24/20
MW-5MSD	2018201-02MSD	Water	06/24/20
MW-5DUP	2018201-02DUP	Water	06/24/20
MW-13DUP	2018201-04DUP	Water	06/24/20

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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Orthophosphate as Phosphorus by EPA Method 365.1
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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-5	pH	50.650 hours	48 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)	Chloride Hexavalent chromium	0.161 mg/L 0.000035 mg/L	All samples in SDG 2018201
ICB/CCB	Chloride Sulfate	0.193 mg/L 0.395 mg/L	All samples in SDG 2018201
ICB/CCB	Hexavalent chromium	0.000043 mg/L	MW-5
ICB/CCB	Hexavalent chromium	0.000038 mg/L	MW-10 MW-13

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-5	Hexavalent chromium	0.00021 mg/L	0.00021U 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

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 one sample.

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

NASA JPL, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2018201

Sample	Analyte	Flag	A or P	Reason
MW-5	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2018201

Sample	Analyte	Modified Final Concentration	A or P
MW-5	Hexavalent chromium	0.00021U mg/L	A

LDC #: 48752D6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2018201 Level III Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer: [signature]

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Orthophosphate-P (EPA Method 365.1), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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	(4,5), From SDG # 2018328 (MW-6MS/MSD, MW-8MS/MSD)
VII.	Duplicate sample analysis	A	6,7, From SDG # 2018328 (MW-6DUP, MW-8DUP)
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-5	2018201-02	Water	06/24/20
2	MW-10	2018201-03	Water	06/24/20
3	MW-13	2018201-04	Water	06/24/20
4	MW-5MS	2018201-02MS	Water	06/24/20
5	MW-5MSD	2018201-02MSD	Water	06/24/20
6	MW-5DUP	2018201-02DUP	Water	06/24/20
7	MW-13DUP	2018201-04DUP	Water	06/24/20
8				
9				
10				
11				
12				
13				
14				

Notes:

Sample Specific Element Reference

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 3	pH, TDS, Cr6+, Cl, NO3-N, SO4, ClO4, NO2-N, Alk
3	PO4-P
QC	
7	pH, Alk
4,5,6	Cr6+, Cl, NO3-N, SO4, NO2-N

Holding Time

METHOD: Inorganics

All samples were properly preserved and within the requried holding time with the following exceptions:

		Method: EPA 150.1 Analyte: pH Holding Time: 48hrs			
Sample ID	Sampling Date	Analysis Date	Total Time from Collection to Analysis (hours)	Qualifier	Det/ND
1	6/24/2020 9:10	6/26/2020 11:49	50.650	J/UJ/P	det

Preservation

Sample ID	Preservation	Preservation Requirement (pH)	Qualifier	Det/ND

VALIDATION FINDINGS WORKSHEET
Laboratory Blank Contamination (PB/ICB/CCB)

METHOD: Inorganics
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: mg/L Associated Samples: all

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Cl	0.161		0.805									
Cl		0.193	0.965									
SO4		0.395	1.975									
Cr6+	0.000035		0.000175									

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 1

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**	1								
Cr6+		0.000043	0.000215	0.00021								

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 2,3

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Cr6+		0.000038	0.00019									

Comments: The listed analyte concentrtaion is the highest ICB or CCB detected in the analysis. The action level, when applicable, is establised at 5X the highest ICB, CCB, or PB concentration.

NASA JPL, 2Q2020 - LDC# 48752D

SDG: 2018201

Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-10	2018201-03	pH	6/26/2020	7.29	Y	y	v		0.05	0.05	pH Units
MW-13	2018201-04	pH	6/26/2020	7.42	Y	y	v		0.05	0.05	pH Units
MW-5	2018201-02	pH	6/26/2020	7.02	Y	y	v	J	0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-10	2018201-03	Total Dissolved Solids @ 180 C	6/26/2020	220	Y	y	v		20	10	mg/L
MW-13	2018201-04	Total Dissolved Solids @ 180 C	6/26/2020	370	Y	y	v		20	10	mg/L
MW-5	2018201-02	Total Dissolved Solids @ 180 C	6/26/2020	190	Y	y	v		20	10	mg/L

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-10	2018201-03	Total Recoverable Magnesium	6/29/2020	12	Y	y	v		0.050	0.019	mg/L
MW-10	2018201-03	Total Recoverable Sodium	6/29/2020	19	Y	y	v		0.50	0.051	mg/L
MW-10	2018201-03	Total Recoverable Potassium	6/29/2020	1.7	Y	y	v		1.0	0.10	mg/L
MW-10	2018201-03	Total Recoverable Iron	6/29/2020	42	Y	y	v j		50	30	ug/L
MW-10	2018201-03	Total Recoverable Calcium	6/29/2020	36	Y	y	v		0.10	0.014	mg/L
MW-13	2018201-04	Total Recoverable Potassium	6/29/2020	2.6	Y	y	v		1.0	0.10	mg/L
MW-13	2018201-04	Total Recoverable Iron	6/29/2020	49	Y	y	v j		50	30	ug/L
MW-13	2018201-04	Total Recoverable Calcium	6/29/2020	53	Y	y	v		0.10	0.014	mg/L
MW-13	2018201-04	Total Recoverable Magnesium	6/29/2020	18	Y	y	v		0.050	0.019	mg/L
MW-13	2018201-04	Total Recoverable Sodium	6/29/2020	26	Y	y	v		0.50	0.051	mg/L
MW-5	2018201-02	Total Recoverable Sodium	6/29/2020	9.6	Y	y	v		0.50	0.051	mg/L
MW-5	2018201-02	Total Recoverable Magnesium	6/29/2020	11	Y	y	v		0.050	0.019	mg/L
MW-5	2018201-02	Total Recoverable Potassium	6/29/2020	2	Y	y	v		1.0	0.10	mg/L

SDG: 2018201

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-5	2018201-02	Total Recoverable Iron	6/29/2020	35	Y	y	v j		50	30	ug/L
MW-5	2018201-02	Total Recoverable Calcium	6/29/2020	34	Y	y	v		0.10	0.014	mg/L

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-10	2018201-03	Total Recoverable Lead	6/29/2020	1	Y	n	u		1.0	0.10	ug/L
MW-10	2018201-03	Total Recoverable Arsenic	6/29/2020	0.95	Y	y	v j		2.0	0.70	ug/L
MW-10	2018201-03	Total Recoverable Chromium	6/29/2020	7.4	Y	y	v		3.0	0.50	ug/L
MW-13	2018201-04	Total Recoverable Arsenic	6/29/2020	2	Y	n	u		2.0	0.70	ug/L
MW-13	2018201-04	Total Recoverable Chromium	6/29/2020	8.3	Y	y	v		3.0	0.50	ug/L
MW-13	2018201-04	Total Recoverable Lead	6/29/2020	1	Y	n	u		1.0	0.10	ug/L
MW-5	2018201-02	Total Recoverable Arsenic	6/29/2020	0.99	Y	y	v j		2.0	0.70	ug/L
MW-5	2018201-02	Total Recoverable Chromium	6/29/2020	1.5	Y	y	v j	U	3.0	0.50	ug/L
MW-5	2018201-02	Total Recoverable Lead	6/29/2020	1	Y	n	u		1.0	0.10	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-10	2018201-03	Hexavalent Chromium	6/25/2020	######	Y	y	v		0.0002	0.0000	mg/L
MW-13	2018201-04	Hexavalent Chromium	6/25/2020	0.0026	Y	y	v		0.0002	0.0000	mg/L
MW-5	2018201-02	Hexavalent Chromium	6/25/2020	######	Y	y	v	U	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-10	2018201-03	Chloride	6/25/2020	8.3	Y	y	v		0.50	0.13	mg/L
MW-10	2018201-03	Nitrate as N	6/25/2020	0.86	Y	y	v		0.10	0.024	mg/L
MW-10	2018201-03	Sulfate	6/25/2020	22	Y	y	v		1.0	0.14	mg/L
MW-13	2018201-04	Chloride	6/25/2020	39	Y	y	v		0.50	0.13	mg/L

SDG: 2018201

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-13	2018201-04	Nitrate as N	6/25/2020	5	Y	y	v		0.10	0.024	mg/L
MW-13	2018201-04	Sulfate	6/25/2020	54	Y	y	v		1.0	0.14	mg/L
MW-5	2018201-02	Chloride	6/25/2020	4.7	Y	y	v		0.50	0.13	mg/L
MW-5	2018201-02	Nitrate as N	6/25/2020	1.8	Y	y	v		0.10	0.024	mg/L
MW-5	2018201-02	Sulfate	6/25/2020	13	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-10	2018201-03	Perchlorate	7/2/2020	4	Y	n	u		4.0	0.81	ug/L
MW-13	2018201-04	Perchlorate	7/2/2020	25	Y	y	v		8.0	1.6	ug/L
MW-5	2018201-02	Perchlorate	7/2/2020	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-10	2018201-03	Nitrite as N	6/25/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-13	2018201-04	Nitrite as N	6/25/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-5	2018201-02	Nitrite as N	6/25/2020	0.05	Y	n	u		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
MW-13	2018201-04	ortho-Phosphate as P	6/26/2020	0.048	Y	y	v j		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
MW-10	2018201-03	1,2,4-Trimethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2018201-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2018201-03	1,2,3-Trichloropropane	6/25/2020	1	Y	n	u		1.0	0.78	ug/L
MW-10	2018201-03	Trichlorofluoromethane	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L

SDG: 2018201

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	2018201-03	Trichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2018201-03	1,1,2-Trichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2018201-03	1,1,1-Trichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2018201-03	1,2,4-Trichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2018201-03	Toluene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2018201-03	Methacrylonitrile	6/25/2020	10	Y	n	u		10	2.3	ug/L
MW-10	2018201-03	Tetrachloroethene	6/25/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-10	2018201-03	1,1,2,2-Tetrachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2018201-03	1,1,1,2-Tetrachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2018201-03	Methyl methacrylate	6/25/2020	5	Y	n	u		5.0	1.2	ug/L
MW-10	2018201-03	Styrene	6/25/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-10	2018201-03	n-Propylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-10	2018201-03	Naphthalene	6/25/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-10	2018201-03	Methyl t-butyl ether	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2018201-03	1,2,3-Trichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2018201-03	Diethyl ether	6/25/2020	2	Y	n	u		2.0	0.33	ug/L
MW-10	2018201-03	Carbon disulfide	6/25/2020	1	Y	n	u		1.0	0.48	ug/L
MW-10	2018201-03	t-Butyl alcohol	6/25/2020	10	Y	n	u		10	9.4	ug/L
MW-10	2018201-03	t-Amyl Methyl ether	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2018201-03	Allyl chloride	6/25/2020	5	Y	n	u		5.0	0.47	ug/L
MW-10	2018201-03	Methyl iodide	6/25/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-10	2018201-03	Acrylonitrile	6/25/2020	5	Y	n	u		5.0	1.5	ug/L
MW-10	2018201-03	Acetone	6/25/2020	10	Y	n	u		10	6.6	ug/L
MW-10	2018201-03	Methyl isobutyl ketone	6/25/2020	10	Y	n	u		10	2.4	ug/L
MW-10	2018201-03	1,3,5-Trimethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L

SDG: 2018201

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	2018201-03	Methyl ethyl ketone	6/25/2020	10	Y	n	u		10	3.3	ug/L
MW-10	2018201-03	2,2-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-10	2018201-03	Ethyl methacrylate	6/25/2020	4	Y	n	u		4.0	1.3	ug/L
MW-10	2018201-03	Methylene chloride	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2018201-03	Ethyl t-butyl ether	6/25/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-10	2018201-03	Hexachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-10	2018201-03	2-Hexanone	6/25/2020	10	Y	n	u		10	5.0	ug/L
MW-10	2018201-03	trans-1,4-Dichloro-2-butene	6/25/2020	5	Y	n	u		5.0	1.8	ug/L
MW-10	2018201-03	Vinyl chloride	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-10	2018201-03	Chloromethane	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-10	2018201-03	cis-1,3-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2018201-03	Bromoform	6/25/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-10	2018201-03	Bromomethane	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-10	2018201-03	n-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2018201-03	sec-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-10	2018201-03	tert-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-10	2018201-03	Carbon tetrachloride	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2018201-03	Chlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2018201-03	Bromochloromethane	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-10	2018201-03	Chloroform	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2018201-03	Bromobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2018201-03	2-Chlorotoluene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2018201-03	4-Chlorotoluene	6/25/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-10	2018201-03	Dibromochloromethane	6/25/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-10	2018201-03	1,2-Dibromo-3-chloropropane	6/25/2020	1	Y	n	u		1.0	0.89	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	2018201-03	1,2-Dibromoethane	6/25/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-10	2018201-03	Dibromomethane	6/25/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-10	2018201-03	1,2-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-10	2018201-03	1,3-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-10	2018201-03	Chloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2018201-03	1,1-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-10	2018201-03	Isopropylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2018201-03	Hexachlorobutadiene	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-10	2018201-03	Ethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2018201-03	trans-1,3-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-10	2018201-03	1,1-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-10	2018201-03	1,1-Dichloropropanone	6/25/2020	0	Y	y	v				ug/L
MW-10	2018201-03	1,3-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-10	2018201-03	1,2-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2018201-03	Bromodichloromethane	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-10	2018201-03	cis-1,2-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-10	2018201-03	p-Isopropyltoluene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-10	2018201-03	1,2-Dichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2018201-03	1,1-Dichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2018201-03	Dichlorodifluoromethane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-10	2018201-03	1-Chlorobutane	6/25/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Chloroacetonitrile	6/25/2020	0	Y	y	v				ug/L
MW-10	2018201-03	o-Xylene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-10	2018201-03	p- & m-Xylenes	6/25/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-10	2018201-03	Benzene	6/25/2020	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
MW-10	2018201-03	trans-1,2-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-10	2018201-03	Nitrobenzene	6/25/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Methyl acrylate	6/25/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Propionitrile	6/25/2020	20	Y	n	u		20	6.2	ug/L
MW-10	2018201-03	Tetrahydrofuran	6/25/2020	20	Y	n	u		20	5.2	ug/L
MW-10	2018201-03	2-Nitropropane	6/25/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Pentachloroethane	6/25/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-10	2018201-03	1,4-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	Vinyl chloride	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-13	2018201-04	Acetone	6/25/2020	10	Y	n	u		10	6.6	ug/L
MW-13	2018201-04	Acrylonitrile	6/25/2020	5	Y	n	u		5.0	1.5	ug/L
MW-13	2018201-04	Allyl chloride	6/25/2020	5	Y	n	u		5.0	0.47	ug/L
MW-13	2018201-04	1,3,5-Trimethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-13	2018201-04	t-Butyl alcohol	6/25/2020	10	Y	n	u		10	9.4	ug/L
MW-13	2018201-04	Trichlorofluoromethane	6/25/2020	1.4	Y	y	v		0.50	0.14	ug/L
MW-13	2018201-04	Carbon disulfide	6/25/2020	1	Y	n	u		1.0	0.48	ug/L
MW-13	2018201-04	trans-1,4-Dichloro-2-butene	6/25/2020	5	Y	n	u		5.0	1.8	ug/L
MW-13	2018201-04	t-Amyl Methyl ether	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-13	2018201-04	1,2,4-Trimethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-13	2018201-04	Diethyl ether	6/25/2020	2	Y	n	u		2.0	0.33	ug/L
MW-13	2018201-04	1,2,3-Trichloropropane	6/25/2020	1	Y	n	u		1.0	0.78	ug/L
MW-13	2018201-04	Methacrylonitrile	6/25/2020	10	Y	n	u		10	2.3	ug/L
MW-13	2018201-04	Trichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-13	2018201-04	Pentachloroethane	6/25/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-13	2018201-04	1,1,2-Trichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L

SDG: 2018201

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-13	2018201-04	1,1,1-Trichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-13	2018201-04	1,2,4-Trichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	1,2,3-Trichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-13	2018201-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-13	2018201-04	tert-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-13	2018201-04	Methyl methacrylate	6/25/2020	5	Y	n	u		5.0	1.2	ug/L
MW-13	2018201-04	1,2-Dibromoethane	6/25/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-13	2018201-04	1,2-Dibromo-3-chloropropane	6/25/2020	1	Y	n	u		1.0	0.89	ug/L
MW-13	2018201-04	Dibromochloromethane	6/25/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-13	2018201-04	4-Chlorotoluene	6/25/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-13	2018201-04	2-Chlorotoluene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-13	2018201-04	Chloromethane	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-13	2018201-04	Chloroform	6/25/2020	0.81	Y	y	v		0.50	0.14	ug/L
MW-13	2018201-04	Chloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-13	2018201-04	Hexachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-13	2018201-04	Carbon tetrachloride	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-13	2018201-04	Ethyl methacrylate	6/25/2020	4	Y	n	u		4.0	1.3	ug/L
MW-13	2018201-04	sec-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-13	2018201-04	n-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	Bromomethane	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-13	2018201-04	Methyl isobutyl ketone	6/25/2020	10	Y	n	u		10	2.4	ug/L
MW-13	2018201-04	Methyl ethyl ketone	6/25/2020	10	Y	n	u		10	3.3	ug/L
MW-13	2018201-04	Styrene	6/25/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-13	2018201-04	2-Hexanone	6/25/2020	10	Y	n	u		10	5.0	ug/L
MW-13	2018201-04	Toluene	6/25/2020	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-13	2018201-04	Ethyl t-butyl ether	6/25/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-13	2018201-04	Chlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-13	2018201-04	Tetrahydrofuran	6/25/2020	20	Y	n	u		20	5.2	ug/L
MW-13	2018201-04	1,1,2,2-Tetrachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-13	2018201-04	1,3-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-13	2018201-04	1,2-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-13	2018201-04	Dibromomethane	6/25/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-13	2018201-04	Bromoform	6/25/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-13	2018201-04	Bromodichloromethane	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-13	2018201-04	Bromochloromethane	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-13	2018201-04	Methyl iodide	6/25/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-13	2018201-04	Dichlorodifluoromethane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	Benzene	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-13	2018201-04	1,1-Dichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	p- & m-Xylenes	6/25/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-13	2018201-04	o-Xylene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-13	2018201-04	Chloroacetonitrile	6/25/2020	0	Y	y	v				ug/L
MW-13	2018201-04	1-Chlorobutane	6/25/2020	0	Y	y	v				ug/L
MW-13	2018201-04	1,1-Dichloropropanone	6/25/2020	0	Y	y	v				ug/L
MW-13	2018201-04	Methyl acrylate	6/25/2020	0	Y	y	v				ug/L
MW-13	2018201-04	Nitrobenzene	6/25/2020	0	Y	y	v				ug/L
MW-13	2018201-04	2-Nitropropane	6/25/2020	0	Y	y	v				ug/L
MW-13	2018201-04	Propionitrile	6/25/2020	20	Y	n	u		20	6.2	ug/L
MW-13	2018201-04	Bromobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	trans-1,3-Dichloropropene	6/25/2020	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-13	2018201-04	1,1,1,2-Tetrachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-13	2018201-04	n-Propylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-13	2018201-04	Naphthalene	6/25/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-13	2018201-04	Methyl t-butyl ether	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-13	2018201-04	Methylene chloride	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-13	2018201-04	p-Isopropyltoluene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-13	2018201-04	Isopropylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-13	2018201-04	1,4-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	Ethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	Tetrachloroethene	6/25/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-13	2018201-04	cis-1,3-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-13	2018201-04	1,1-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-13	2018201-04	2,2-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-13	2018201-04	1,3-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-13	2018201-04	1,2-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-13	2018201-04	trans-1,2-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-13	2018201-04	cis-1,2-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-13	2018201-04	1,1-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-13	2018201-04	1,2-Dichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-13	2018201-04	Hexachlorobutadiene	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-5	2018201-02	1,2,3-Trichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-5	2018201-02	n-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-5	2018201-02	Pentachloroethane	6/25/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-5	2018201-02	cis-1,3-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	Dichlorodifluoromethane	6/25/2020	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-5	2018201-02	1,1-Dichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-5	2018201-02	1,2-Dichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-5	2018201-02	1,1-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-5	2018201-02	cis-1,2-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-5	2018201-02	trans-1,2-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-5	2018201-02	1,2-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-5	2018201-02	1,3-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-5	2018201-02	n-Propylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-5	2018201-02	1,1-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-5	2018201-02	1,2-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-5	2018201-02	trans-1,3-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-5	2018201-02	Ethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-5	2018201-02	Hexachlorobutadiene	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-5	2018201-02	Isopropylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	p-Isopropyltoluene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	Methylene chloride	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-5	2018201-02	Methyl t-butyl ether	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	Bromoform	6/25/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-5	2018201-02	2,2-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-5	2018201-02	Chloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-5	2018201-02	Benzene	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-5	2018201-02	Bromobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-5	2018201-02	Bromochloromethane	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-5	2018201-02	Bromodichloromethane	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-5	2018201-02	Bromomethane	6/25/2020	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-5	2018201-02	sec-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-5	2018201-02	tert-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-5	2018201-02	Methyl iodide	6/25/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-5	2018201-02	1,4-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-5	2018201-02	Chlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	1,3-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-5	2018201-02	Chloroform	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	Chloromethane	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-5	2018201-02	2-Chlorotoluene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	4-Chlorotoluene	6/25/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-5	2018201-02	Dibromochloromethane	6/25/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-5	2018201-02	1,2-Dibromo-3-chloropropane	6/25/2020	1	Y	n	u		1.0	0.89	ug/L
MW-5	2018201-02	1,2-Dibromoethane	6/25/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-5	2018201-02	Dibromomethane	6/25/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-5	2018201-02	Styrene	6/25/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-5	2018201-02	Carbon tetrachloride	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-5	2018201-02	1,3,5-Trimethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	Naphthalene	6/25/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-5	2018201-02	Diethyl ether	6/25/2020	2	Y	n	u		2.0	0.33	ug/L
MW-5	2018201-02	trans-1,4-Dichloro-2-butene	6/25/2020	5	Y	n	u		5.0	1.8	ug/L
MW-5	2018201-02	Carbon disulfide	6/25/2020	1	Y	n	u		1.0	0.48	ug/L
MW-5	2018201-02	t-Butyl alcohol	6/25/2020	10	Y	n	u		10	9.4	ug/L
MW-5	2018201-02	t-Amyl Methyl ether	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-5	2018201-02	Allyl chloride	6/25/2020	5	Y	n	u		5.0	0.47	ug/L
MW-5	2018201-02	Acrylonitrile	6/25/2020	5	Y	n	u		5.0	1.5	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-5	2018201-02	Ethyl methacrylate	6/25/2020	4	Y	n	u		4.0	1.3	ug/L
MW-5	2018201-02	Vinyl chloride	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-5	2018201-02	Ethyl t-butyl ether	6/25/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-5	2018201-02	1,2,4-Trimethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-5	2018201-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-5	2018201-02	1,2,3-Trichloropropane	6/25/2020	1	Y	n	u		1.0	0.78	ug/L
MW-5	2018201-02	Trichlorofluoromethane	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-5	2018201-02	Trichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-5	2018201-02	1,1,2-Trichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-5	2018201-02	1,1,1-Trichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-5	2018201-02	1,2,4-Trichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-5	2018201-02	Acetone	6/25/2020	10	Y	n	u		10	6.6	ug/L
MW-5	2018201-02	p- & m-Xylenes	6/25/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-5	2018201-02	1,1,1,2-Tetrachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-5	2018201-02	1,1,2,2-Tetrachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-5	2018201-02	Tetrachloroethene	6/25/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-5	2018201-02	Toluene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-5	2018201-02	2-Nitropropane	6/25/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Nitrobenzene	6/25/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Methyl acrylate	6/25/2020	0	Y	y	v				ug/L
MW-5	2018201-02	1,1-Dichloropropanone	6/25/2020	0	Y	y	v				ug/L
MW-5	2018201-02	1-Chlorobutane	6/25/2020	0	Y	y	v				ug/L
MW-5	2018201-02	o-Xylene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-5	2018201-02	Tetrahydrofuran	6/25/2020	20	Y	n	u		20	5.2	ug/L
MW-5	2018201-02	Propionitrile	6/25/2020	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-5	2018201-02	Methyl methacrylate	6/25/2020	5	Y	n	u		5.0	1.2	ug/L
MW-5	2018201-02	Methyl isobutyl ketone	6/25/2020	10	Y	n	u		10	2.4	ug/L
MW-5	2018201-02	Methyl ethyl ketone	6/25/2020	10	Y	n	u		10	3.3	ug/L
MW-5	2018201-02	Methacrylonitrile	6/25/2020	10	Y	n	u		10	2.3	ug/L
MW-5	2018201-02	2-Hexanone	6/25/2020	10	Y	n	u		10	5.0	ug/L
MW-5	2018201-02	Hexachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-5	2018201-02	Chloroacetonitrile	6/25/2020	0	Y	y	v				ug/L
TB-12-062420	2018201-01	Methyl acrylate	6/25/2020	0	Y	y	v				ug/L
TB-12-062420	2018201-01	Benzene	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-12-062420	2018201-01	Pentachloroethane	6/25/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
TB-12-062420	2018201-01	trans-1,3-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-12-062420	2018201-01	1,1,1,2-Tetrachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-12-062420	2018201-01	Styrene	6/25/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-12-062420	2018201-01	n-Propylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-12-062420	2018201-01	Naphthalene	6/25/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-12-062420	2018201-01	Methyl t-butyl ether	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-12-062420	2018201-01	Methylene chloride	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-12-062420	2018201-01	p-Isopropyltoluene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-12-062420	2018201-01	Isopropylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-12-062420	2018201-01	Nitrobenzene	6/25/2020	0	Y	y	v				ug/L
TB-12-062420	2018201-01	Ethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-12-062420	2018201-01	Toluene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-12-062420	2018201-01	cis-1,3-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-12-062420	2018201-01	1,1-Dichloropropene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-12-062420	2018201-01	2,2-Dichloropropane	6/25/2020	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
TB-12-062420	2018201-01	1,3-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-12-062420	2018201-01	1,2-Dichloropropane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-12-062420	2018201-01	trans-1,2-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-12-062420	2018201-01	2-Nitropropane	6/25/2020	0	Y	y	v				ug/L
TB-12-062420	2018201-01	1,1-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-12-062420	2018201-01	Hexachlorobutadiene	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-12-062420	2018201-01	1,2,4-Trimethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-12-062420	2018201-01	Diethyl ether	6/25/2020	2	Y	n	u		2.0	0.33	ug/L
TB-12-062420	2018201-01	trans-1,4-Dichloro-2-butene	6/25/2020	5	Y	n	u		5.0	1.8	ug/L
TB-12-062420	2018201-01	Carbon disulfide	6/25/2020	1	Y	n	u		1.0	0.48	ug/L
TB-12-062420	2018201-01	t-Butyl alcohol	6/25/2020	10	Y	n	u		10	9.4	ug/L
TB-12-062420	2018201-01	t-Amyl Methyl ether	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-12-062420	2018201-01	Allyl chloride	6/25/2020	5	Y	n	u		5.0	0.47	ug/L
TB-12-062420	2018201-01	Acrylonitrile	6/25/2020	5	Y	n	u		5.0	1.5	ug/L
TB-12-062420	2018201-01	Acetone	6/25/2020	10	Y	n	u		10	6.6	ug/L
TB-12-062420	2018201-01	1,1,2,2-Tetrachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-12-062420	2018201-01	1,3,5-Trimethylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-12-062420	2018201-01	Tetrachloroethene	6/25/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-12-062420	2018201-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-12-062420	2018201-01	1,2,3-Trichloropropane	6/25/2020	1	Y	n	u		1.0	0.78	ug/L
TB-12-062420	2018201-01	Trichlorofluoromethane	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-12-062420	2018201-01	Trichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-12-062420	2018201-01	1,1,2-Trichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-12-062420	2018201-01	1,1,1-Trichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-12-062420	2018201-01	1,2,4-Trichlorobenzene	6/25/2020	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
TB-12-062420	2018201-01	1,2,3-Trichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-12-062420	2018201-01	1,2-Dichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-12-062420	2018201-01	Vinyl chloride	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-12-062420	2018201-01	Methyl methacrylate	6/25/2020	5	Y	n	u		5.0	1.2	ug/L
TB-12-062420	2018201-01	cis-1,2-Dichloroethene	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-12-062420	2018201-01	Bromochloromethane	6/25/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-12-062420	2018201-01	Bromobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-12-062420	2018201-01	Ethyl t-butyl ether	6/25/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-12-062420	2018201-01	Hexachloroethane	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-12-062420	2018201-01	2-Hexanone	6/25/2020	10	Y	n	u		10	5.0	ug/L
TB-12-062420	2018201-01	Methacrylonitrile	6/25/2020	10	Y	n	u		10	2.3	ug/L
TB-12-062420	2018201-01	Methyl ethyl ketone	6/25/2020	10	Y	n	u		10	3.3	ug/L
TB-12-062420	2018201-01	Bromodichloromethane	6/25/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-12-062420	2018201-01	Methyl isobutyl ketone	6/25/2020	10	Y	n	u		10	2.4	ug/L
TB-12-062420	2018201-01	Bromoform	6/25/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-12-062420	2018201-01	Propionitrile	6/25/2020	20	Y	n	u		20	6.2	ug/L
TB-12-062420	2018201-01	Tetrahydrofuran	6/25/2020	20	Y	n	u		20	5.2	ug/L
TB-12-062420	2018201-01	p- & m-Xylenes	6/25/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-12-062420	2018201-01	o-Xylene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-12-062420	2018201-01	Chloroacetonitrile	6/25/2020	0	Y	y	v				ug/L
TB-12-062420	2018201-01	1-Chlorobutane	6/25/2020	0	Y	y	v				ug/L
TB-12-062420	2018201-01	1,1-Dichloropropanone	6/25/2020	0	Y	y	v				ug/L
TB-12-062420	2018201-01	Ethyl methacrylate	6/25/2020	4	Y	n	u		4.0	1.3	ug/L
TB-12-062420	2018201-01	Methyl iodide	6/25/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-12-062420	2018201-01	2-Chlorotoluene	6/25/2020	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
TB-12-062420	2018201-01	Dichlorodifluoromethane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-12-062420	2018201-01	1,4-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-12-062420	2018201-01	1,3-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-12-062420	2018201-01	1,2-Dichlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-12-062420	2018201-01	Dibromomethane	6/25/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-12-062420	2018201-01	1,2-Dibromoethane	6/25/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-12-062420	2018201-01	1,2-Dibromo-3-chloropropane	6/25/2020	1	Y	n	u		1.0	0.89	ug/L
TB-12-062420	2018201-01	Dibromochloromethane	6/25/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-12-062420	2018201-01	4-Chlorotoluene	6/25/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-12-062420	2018201-01	1,1-Dichloroethane	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-12-062420	2018201-01	Chloromethane	6/25/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-12-062420	2018201-01	Chloroform	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-12-062420	2018201-01	Chloroethane	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-12-062420	2018201-01	Chlorobenzene	6/25/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-12-062420	2018201-01	Carbon tetrachloride	6/25/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-12-062420	2018201-01	tert-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-12-062420	2018201-01	sec-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-12-062420	2018201-01	n-Butylbenzene	6/25/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-12-062420	2018201-01	Bromomethane	6/25/2020	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-10	2018201-03	Benzidine	6/27/2020	20	Y	n	u	UJ	20	1.6	ug/L
MW-10	2018201-03	Hexachlorophene	6/27/2020	200	Y	n	u	UJ	200	20	ug/L
MW-10	2018201-03	Diethyl phthalate	6/27/2020	2	Y	n	u		2.0	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-10	2018201-03	2-Naphthylamine	6/27/2020	20	Y	n	u	UJ	20	1.3	ug/L
MW-10	2018201-03	Pronamide	6/27/2020	10	Y	n	u	UJ	10	0.22	ug/L
MW-10	2018201-03	2,3,4,6-Tetrachlorophenol	6/27/2020	10	Y	n	u	UJ	10	0.73	ug/L
MW-10	2018201-03	2,3,4,5-Tetrachlorophenol	6/27/2020	10	Y	n	u		10	5.0	ug/L
MW-10	2018201-03	1,2,4,5-Tetrachlorobenzene	6/27/2020	10	Y	n	u		10	0.20	ug/L
MW-10	2018201-03	Sulfotep	6/27/2020	10	Y	n	u		10	0.23	ug/L
MW-10	2018201-03	Safrole	6/27/2020	10	Y	n	u		10	0.40	ug/L
MW-10	2018201-03	Pyridine	6/27/2020	10	Y	n	u		10	1.6	ug/L
MW-10	2018201-03	Ethyl methacrylate	6/27/2020	10	Y	n	u		10	1.2	ug/L
MW-10	2018201-03	Propyleneglycol monomethyl ether acetate	6/27/2020	10	Y	n	u		10	3.7	ug/L
MW-10	2018201-03	Toxaphene	6/27/2020	100	Y	n	u		100	50	ug/L
MW-10	2018201-03	Prometryn	6/27/2020	10	Y	n	u		10	1.7	ug/L
MW-10	2018201-03	Total PCB's (Summation)	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	PCB-1232	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	PCB-1016	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	PCB-1242	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	PCB-1254	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	PCB-1260	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	Prowl	6/27/2020	10	Y	n	u		10	0.83	ug/L
MW-10	2018201-03	Anilazine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Carbofuran	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Carbaryl	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Captan	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Captafol	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Bromoxynil	6/27/2020	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-10	2018201-03	p-Benzoquinone	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Barban	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Thionazin	6/27/2020	10	Y	n	u		10	0.38	ug/L
MW-10	2018201-03	o-Anisidine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	2-Toluidine	6/27/2020	10	Y	n	u		10	0.41	ug/L
MW-10	2018201-03	3-Amino-9-ethylcarbazole	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	2-Aminoanthraquinone	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	1-Acetyl-2-thiourea	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Tris(hydroxymethyl)nitromethane	6/27/2020	50	Y	n	u		50	5.0	ug/L
MW-10	2018201-03	1,3,5-Trinitrobenzene	6/27/2020	10	Y	n	u	UJ	10	1.4	ug/L
MW-10	2018201-03	o,o,o-Triethylphosphorothioate	6/27/2020	10	Y	n	u		10	0.44	ug/L
MW-10	2018201-03	PCB-1248	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	Azinphos methyl	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	trans-Isosafrole	6/27/2020	5	Y	n	u		5.0	0.29	ug/L
MW-10	2018201-03	PCB-1221	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	1-Methylnaphthalene	6/27/2020	10	Y	n	u		10	0.26	ug/L
MW-10	2018201-03	Methyl methanesulfonate	6/27/2020	10	Y	n	u		10	0.40	ug/L
MW-10	2018201-03	Methyl methacrylate	6/27/2020	40	Y	n	u		40	3.8	ug/L
MW-10	2018201-03	3-Methylcholanthrene	6/27/2020	10	Y	n	u	UJ	10	0.31	ug/L
MW-10	2018201-03	Methoxychlor	6/27/2020	10	Y	n	u		10	0.20	ug/L
MW-10	2018201-03	Methapyrilene	6/27/2020	10	Y	n	u		10	2.9	ug/L
MW-10	2018201-03	N-Methyl-2-pyrrolidinone	6/27/2020	10	Y	n	u		10	2.5	ug/L
MW-10	2018201-03	Isosafrole	6/27/2020	10	Y	n	u		10	0.73	ug/L
MW-10	2018201-03	1,4-Naphthoquinone	6/27/2020	20	Y	n	u		20	0.87	ug/L
MW-10	2018201-03	cis-Isosafrole	6/27/2020	5	Y	n	u		5.0	0.44	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-10	2018201-03	Isodrin	6/27/2020	10	Y	n	u		10	0.43	ug/L
MW-10	2018201-03	Hexachloropropene	6/27/2020	20	Y	n	u		20	0.23	ug/L
MW-10	2018201-03	3,3-Dichlorobenzidine	6/27/2020	10	Y	n	u		10	0.53	ug/L
MW-10	2018201-03	Famphur	6/27/2020	20	Y	n	u		20	4.1	ug/L
MW-10	2018201-03	Acenaphthene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Ethyl methanesulfonate	6/27/2020	10	Y	n	u		10	0.61	ug/L
MW-10	2018201-03	Kepone	6/27/2020	20	Y	n	u		20	2.2	ug/L
MW-10	2018201-03	N-Nitrosopiperidine	6/27/2020	10	Y	n	u		10	0.47	ug/L
MW-10	2018201-03	5-Chloro-2-methylaniline	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	PCB-1262	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	2-Picoline	6/27/2020	10	Y	n	u		10	1.2	ug/L
MW-10	2018201-03	Phorate	6/27/2020	10	Y	n	u		10	0.35	ug/L
MW-10	2018201-03	1,4-Phenylenediamine	6/27/2020	20	Y	n	u		20	1.1	ug/L
MW-10	2018201-03	Phenacetin	6/27/2020	10	Y	n	u		10	0.75	ug/L
MW-10	2018201-03	Pentachloronitrobenzene	6/27/2020	10	Y	n	u		10	0.42	ug/L
MW-10	2018201-03	Methyl parathion	6/27/2020	10	Y	n	u		10	0.71	ug/L
MW-10	2018201-03	N-Nitrosopyrrolidine	6/27/2020	10	Y	n	u		10	0.39	ug/L
MW-10	2018201-03	PCB-1268	6/27/2020	50	Y	n	u		50	25	ug/L
MW-10	2018201-03	N-Nitrosomorpholine	6/27/2020	10	Y	n	u		10	0.63	ug/L
MW-10	2018201-03	N-Nitrosomethylethylamine	6/27/2020	10	Y	n	u		10	0.61	ug/L
MW-10	2018201-03	N-Nitrosodiethylamine	6/27/2020	10	Y	n	u		10	0.55	ug/L
MW-10	2018201-03	N-Nitrosodibutylamine	6/27/2020	10	Y	n	u		10	0.26	ug/L
MW-10	2018201-03	4-Nitroquinoline 1-oxide	6/27/2020	20	Y	n	u	UJ	20	0.95	ug/L
MW-10	2018201-03	5-Nitro-o-toluidine	6/27/2020	10	Y	n	u		10	0.85	ug/L
MW-10	2018201-03	1-Naphthylamine	6/27/2020	20	Y	n	u	UJ	20	0.30	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-10	2018201-03	Pentachlorobenzene	6/27/2020	10	Y	n	u	UJ	10	0.20	ug/L
MW-10	2018201-03	Naled	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Maleic Anhydride	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Phenobarbital	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	4,4'-Oxydianiline	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Octamethylpyrophosphoramide	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Nitrophen	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	4-Nitrobiphenyl	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	5-Nitro-o-anisidine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Phosmet	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Nicotine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Phosphamidon	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Monocrotophos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Mirex	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Mexacarbate	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Mevinphos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	4,4'-Methylenebis[N,N-dimethylaniline]	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	4,4'-Methylenebis(2-chloroaniline)	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Carbophenothion	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	5-Nitroacenaphthene	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Tetrachlorvinphos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Pentachloroethane	6/27/2020	20	Y	n	u		20	0.31	ug/L
MW-10	2018201-03	Tri-p-tolyl phosphate	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Tris(2,3-dibromopropyl) phosphate	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Trimethyl phosphate	6/27/2020	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-10	2018201-03	2,4,5-Trimethylaniline	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Trifluralin	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Toluene 2,4-diisocyanate	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Phosalone	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	TEPP	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Malathion	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Terbufos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Sulfallate	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Strychnine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Resorcinol	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Propylthiouracil	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Piperonyl sulfoxide	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Phthalic anhydride	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Thiophenol (Benzenethiol)	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	2-Cyclohexyl-4,6-dinitrophenol	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Mestranol	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Dichlorvos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Dichlone	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	1,2-Dibromo-3-chloropropane	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Dibenzo[a,e]pyrene	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Dibenz[a,j]acridine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	2,4-Diaminotoluene	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Diethylstilbestrol	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Demeton-O	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Diethyl sulfate	6/27/2020	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-10	2018201-03	Crotoxyphos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	p-Cresidine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Coumaphos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	4-Chloro-1,3-phenylenediamine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	4-Chloro-1,2-phenylenediamine	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	3-(Chloromethyl) pyridine hydrochloride	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Ethyl Parathion	6/27/2020	10	Y	n	u		10	0.53	ug/L
MW-10	2018201-03	Demeton-S	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Endrin ketone	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Leptophos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Hydroquinone	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Hexamethylphosphoramide	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Fluchloralin	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Fenthion	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Fensulfothion	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Ethyl carbamate	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Dicrotophos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	EPN	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Chlorfenvinphos	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	5,5-Diphenylhydantoin	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Dioxathion	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Dinocap	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	1,4-Dinitrobenzene	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	1,2-Dinitrobenzene	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	3,3'-Dimethoxybenzidine	6/27/2020	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-10	2018201-03	Dihydrosafrole	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Ethion	6/27/2020	0	Y	y	v				ug/L
MW-10	2018201-03	Benzo[k]fluoranthene	6/27/2020	2	Y	n	u		2.0	0.30	ug/L
MW-10	2018201-03	Dinoseb	6/27/2020	10	Y	n	u	UJ	10	0.91	ug/L
MW-10	2018201-03	bis(2-Chloroethyl) ether	6/27/2020	2	Y	n	u		2.0	0.31	ug/L
MW-10	2018201-03	Disulfoton	6/27/2020	10	Y	n	u		10	0.33	ug/L
MW-10	2018201-03	bis(2-Chloroethoxy)methane	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	gamma-BHC (Lindane)	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	delta-BHC	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	beta-BHC	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	alpha-BHC	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Benzyl butyl phthalate	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Benzyl alcohol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Benzoic acid	6/27/2020	10	Y	n	u		10	0.52	ug/L
MW-10	2018201-03	Naphthalene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Benzo[a]pyrene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Isophorone	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Benzo[b]fluoranthene	6/27/2020	2	Y	n	u		2.0	0.24	ug/L
MW-10	2018201-03	Benzo[a]anthracene	6/27/2020	2	Y	n	u		2.0	0.21	ug/L
MW-10	2018201-03	Di-n-octyl phthalate	6/27/2020	2	Y	n	u		2.0	0.21	ug/L
MW-10	2018201-03	Anthracene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Aniline	6/27/2020	5	Y	n	u		5.0	0.28	ug/L
MW-10	2018201-03	Aldrin	6/27/2020	2	Y	n	u		2.0	0.23	ug/L
MW-10	2018201-03	2,6-Dinitrotoluene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	1,4-Dichlorobenzene	6/27/2020	2	Y	n	u		2.0	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-10	2018201-03	2,4-Dinitrotoluene	6/27/2020	2	Y	n	u		2.0	0.40	ug/L
MW-10	2018201-03	Di-n-butyl phthalate	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	1,2-Diphenylhydrazine	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Benzo[g,h,i]perylene	6/27/2020	2	Y	n	u		2.0	0.33	ug/L
MW-10	2018201-03	1,2-Dichlorobenzene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Endosulfan I	6/27/2020	10	Y	n	u		10	0.31	ug/L
MW-10	2018201-03	Endosulfan II	6/27/2020	10	Y	n	u		10	0.30	ug/L
MW-10	2018201-03	Endosulfan sulfate	6/27/2020	3	Y	n	u		3.0	0.23	ug/L
MW-10	2018201-03	Endrin	6/27/2020	2	Y	n	u		2.0	0.38	ug/L
MW-10	2018201-03	Endrin aldehyde	6/27/2020	10	Y	n	u		10	0.44	ug/L
MW-10	2018201-03	Fluoranthene	6/27/2020	2	Y	n	u		2.0	0.28	ug/L
MW-10	2018201-03	Fluorene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Heptachlor	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Heptachlor epoxide	6/27/2020	2	Y	n	u		2.0	0.26	ug/L
MW-10	2018201-03	Hexachlorobenzene	6/27/2020	2	Y	n	u		2.0	0.25	ug/L
MW-10	2018201-03	Hexachlorobutadiene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	bis(2-Chloroisopropyl)ether	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Hexachloroethane	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	bis(2-Ethylhexyl)phthalate	6/27/2020	4	Y	n	u		4.0	0.20	ug/L
MW-10	2018201-03	Dibenzofuran	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Dibenzo[a,h]anthracene	6/27/2020	3	Y	n	u		3.0	0.34	ug/L
MW-10	2018201-03	4,4'-DDT	6/27/2020	2	Y	n	u		2.0	0.22	ug/L
MW-10	2018201-03	4,4'-DDE	6/27/2020	3	Y	n	u		3.0	0.24	ug/L
MW-10	2018201-03	4,4'-DDD	6/27/2020	2	Y	n	u		2.0	0.26	ug/L
MW-10	2018201-03	Chrysene	6/27/2020	2	Y	n	u		2.0	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-10	2018201-03	4-Chlorophenyl phenyl ether	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	2-Chloronaphthalene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	4-Chloroaniline	6/27/2020	2	Y	n	u		2.0	1.1	ug/L
MW-10	2018201-03	Indeno[1,2,3-cd]pyrene	6/27/2020	2	Y	n	u		2.0	0.29	ug/L
MW-10	2018201-03	4-Bromophenyl phenyl ether	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Dimethyl phthalate	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Hexachlorocyclopentadiene	6/27/2020	2	Y	n	u		2.0	0.31	ug/L
MW-10	2018201-03	cis-Diallate	6/27/2020	5	Y	n	u		5.0	2.4	ug/L
MW-10	2018201-03	2-Methylnaphthalene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Acrolein, dimethyl acetal	6/27/2020	40	Y	n	u		40	6.1	ug/L
MW-10	2018201-03	4-Aminobiphenyl	6/27/2020	20	Y	n	u		20	0.35	ug/L
MW-10	2018201-03	2-Acetylaminofluorene	6/27/2020	10	Y	n	u	UJ	10	0.78	ug/L
MW-10	2018201-03	Benzaldehyde	6/27/2020	10	Y	n	u		10	2.9	ug/L
MW-10	2018201-03	Benefin	6/27/2020	10	Y	n	u		10	0.88	ug/L
MW-10	2018201-03	1,1-Biphenyl	6/27/2020	10	Y	n	u		10	3.6	ug/L
MW-10	2018201-03	Caprolactam	6/27/2020	10	Y	n	u		10	3.6	ug/L
MW-10	2018201-03	Carbazole	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Aramite	6/27/2020	10	Y	n	u	UJ	10	0.35	ug/L
MW-10	2018201-03	cis-Chlordane	6/27/2020	5	Y	n	u	UJ	5.0	0.59	ug/L
MW-10	2018201-03	Acetophenone	6/27/2020	10	Y	n	u		10	0.33	ug/L
MW-10	2018201-03	1-Chloronaphthalene	6/27/2020	10	Y	n	u		10	0.37	ug/L
MW-10	2018201-03	2,4,6-Trichlorophenol	6/27/2020	5	Y	n	u		5.0	0.20	ug/L
MW-10	2018201-03	trans-Chlordane	6/27/2020	5	Y	n	u	UJ	5.0	0.55	ug/L
MW-10	2018201-03	trans-Diallate	6/27/2020	5	Y	n	u	UJ	5.0	0.56	ug/L
MW-10	2018201-03	2,6-Dichlorophenol	6/27/2020	10	Y	n	u		10	0.28	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-10	2018201-03	Dimethoate	6/27/2020	20	Y	n	u		20	0.99	ug/L
MW-10	2018201-03	p-(Dimethylamino)azobenzene	6/27/2020	10	Y	n	u		10	0.27	ug/L
MW-10	2018201-03	Diallate	6/27/2020	10	Y	n	u	UJ	10	3.0	ug/L
MW-10	2018201-03	7,12-Dimethylbenz[a]anthracene	6/27/2020	10	Y	n	u	UJ	10	0.37	ug/L
MW-10	2018201-03	a,a-Dimethylphenethylamine	6/27/2020	20	Y	n	u		20	4.9	ug/L
MW-10	2018201-03	Dimethyl sulfoxide (DMSO)	6/27/2020	10	Y	n	u		10	9.5	ug/L
MW-10	2018201-03	1,3-Dinitrobenzene	6/27/2020	10	Y	n	u		10	0.93	ug/L
MW-10	2018201-03	3,3'-Dimethylbenzidine	6/27/2020	20	Y	n	u	UJ	20	0.42	ug/L
MW-10	2018201-03	Diphenylamine	6/27/2020	10	Y	n	u		10	0.61	ug/L
MW-10	2018201-03	Chlorobenzilate	6/27/2020	10	Y	n	u		10	0.27	ug/L
MW-10	2018201-03	2,4-Dichlorophenol	6/27/2020	2	Y	n	u		2.0	0.23	ug/L
MW-10	2018201-03	2-Nitroaniline	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	3-Nitroaniline	6/27/2020	2	Y	n	u		2.0	0.22	ug/L
MW-10	2018201-03	4-Nitroaniline	6/27/2020	5	Y	n	u		5.0	0.38	ug/L
MW-10	2018201-03	Nitrobenzene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	N-Nitrosodimethylamine	6/27/2020	2	Y	n	u		2.0	1.2	ug/L
MW-10	2018201-03	N-Nitrosodi-N-propylamine	6/27/2020	2	Y	n	u		2.0	0.21	ug/L
MW-10	2018201-03	N-Nitrosodiphenylamine	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Phenanthrene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Pyrene	6/27/2020	2	Y	n	u		2.0	0.22	ug/L
MW-10	2018201-03	1,2,4-Trichlorobenzene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Dieldrin	6/27/2020	3	Y	n	u		3.0	0.39	ug/L
MW-10	2018201-03	2-Chlorophenol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Acenaphthylene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	2,4-Dimethylphenol	6/27/2020	2	Y	n	u		2.0	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-10	2018201-03	4,6-Dinitro-2-methylphenol	6/27/2020	10	Y	n	u		10	0.24	ug/L
MW-10	2018201-03	2,4-Dinitrophenol	6/27/2020	10	Y	n	u		10	0.20	ug/L
MW-10	2018201-03	2-Methylphenol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	3- & 4-Methylphenol	6/27/2020	2	Y	n	u		2.0	0.40	ug/L
MW-10	2018201-03	Total Methylphenol	6/27/2020	4	Y	n	u		4.0	0.60	ug/L
MW-10	2018201-03	2-Nitrophenol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	4-Nitrophenol	6/27/2020	2	Y	n	u		2.0	0.30	ug/L
MW-10	2018201-03	Pentachlorophenol	6/27/2020	10	Y	n	u		10	0.40	ug/L
MW-10	2018201-03	1,3-Dichlorobenzene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-10	2018201-03	Phenol	6/27/2020	2	Y	n	u		2.0	0.21	ug/L
MW-10	2018201-03	2,4,5-Trichlorophenol	6/27/2020	5	Y	n	u		5.0	0.20	ug/L
MW-10	2018201-03	4-Chloro-3-methylphenol	6/27/2020	5	Y	n	u		5.0	0.20	ug/L
MW-13	2018201-04	1,4-Dioxane	7/7/2020	1	Y	n	u		1.0	0.16	ug/L
MW-5	2018201-02	Hydroquinone	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Fensulfothion	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Ethion	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Nitrophen	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	EPN	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Endrin ketone	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	5,5-Diphenylhydantoin	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Ethyl carbamate	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Toluene 2,4-diisocyanate	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Piperonyl sulfoxide	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Propylthiouracil	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Resorcinol	6/27/2020	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-5	2018201-02	Strychnine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Sulfallate	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Terbufos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Tetrachlorvinphos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	5-Nitro-o-anisidine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Thiophenol (Benzenethiol)	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Phosmet	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Trifluralin	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	2,4,5-Trimethylaniline	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Trimethyl phosphate	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Tris(2,3-dibromopropyl) phosphate	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Tri-p-tolyl phosphate	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Hexamethylphosphoramide	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Fenthion	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Fluchloralin	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	TEPP	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Naled	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Leptophos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Malathion	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Maleic Anhydride	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Mestranol	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	4,4'-Methylenebis(2-chloroaniline)	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	4,4'-Methylenebis[N,N-dimethylaniline]	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Mevinphos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Mexacarbate	6/27/2020	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-5	2018201-02	Phthalic anhydride	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Monocrotophos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Phosphamidon	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Nicotine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	5-Nitroacenaphthene	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	4-Nitrobiphenyl	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Octamethylpyrophosphoramide	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	4,4'-Oxydianiline	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Phenobarbital	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Phosalone	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Dichlone	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Mirex	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	PCB-1268	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	Pyridine	6/27/2020	10	Y	n	u		10	1.6	ug/L
MW-5	2018201-02	N-Nitrosomethylethylamine	6/27/2020	10	Y	n	u		10	0.61	ug/L
MW-5	2018201-02	N-Nitrosomorpholine	6/27/2020	10	Y	n	u		10	0.63	ug/L
MW-5	2018201-02	N-Nitrosopiperidine	6/27/2020	10	Y	n	u		10	0.47	ug/L
MW-5	2018201-02	N-Nitrosopyrrolidine	6/27/2020	10	Y	n	u		10	0.39	ug/L
MW-5	2018201-02	3-Methylcholanthrene	6/27/2020	10	Y	n	u	UJ	10	0.31	ug/L
MW-5	2018201-02	Pentachloronitrobenzene	6/27/2020	10	Y	n	u		10	0.42	ug/L
MW-5	2018201-02	Phenacetin	6/27/2020	10	Y	n	u		10	0.75	ug/L
MW-5	2018201-02	1,4-Phenylenediamine	6/27/2020	20	Y	n	u		20	1.1	ug/L
MW-5	2018201-02	Phorate	6/27/2020	10	Y	n	u		10	0.35	ug/L
MW-5	2018201-02	2-Picoline	6/27/2020	10	Y	n	u		10	1.2	ug/L
MW-5	2018201-02	N-Nitrosodibutylamine	6/27/2020	10	Y	n	u		10	0.26	ug/L

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MW-5	2018201-02	PCB-1248	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	Dinoseb	6/27/2020	10	Y	n	u	UJ	10	0.91	ug/L
MW-5	2018201-02	PCB-1221	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	PCB-1260	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	PCB-1254	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	PCB-1242	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	PCB-1016	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	PCB-1232	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	Total PCB's (Summation)	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	Prometryn	6/27/2020	10	Y	n	u		10	1.7	ug/L
MW-5	2018201-02	1-Naphthylamine	6/27/2020	20	Y	n	u	UJ	20	0.30	ug/L
MW-5	2018201-02	Propyleneglycol monomethyl ether acetate	6/27/2020	10	Y	n	u		10	3.7	ug/L
MW-5	2018201-02	1,3-Dinitrobenzene	6/27/2020	10	Y	n	u		10	0.93	ug/L
MW-5	2018201-02	PCB-1262	6/27/2020	50	Y	n	u		50	25	ug/L
MW-5	2018201-02	Kepone	6/27/2020	20	Y	n	u		20	2.2	ug/L
MW-5	2018201-02	trans-Diallate	6/27/2020	5	Y	n	u	UJ	5.0	0.56	ug/L
MW-5	2018201-02	Diphenylamine	6/27/2020	10	Y	n	u		10	0.61	ug/L
MW-5	2018201-02	Acenaphthene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Ethyl methacrylate	6/27/2020	10	Y	n	u		10	1.2	ug/L
MW-5	2018201-02	Dibenzo[a,e]pyrene	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Ethyl Parathion	6/27/2020	10	Y	n	u		10	0.53	ug/L
MW-5	2018201-02	Famphur	6/27/2020	20	Y	n	u		20	4.1	ug/L
MW-5	2018201-02	Diallate	6/27/2020	10	Y	n	u	UJ	10	3.0	ug/L
MW-5	2018201-02	Hexachloropropene	6/27/2020	20	Y	n	u		20	0.23	ug/L
MW-5	2018201-02	Isodrin	6/27/2020	10	Y	n	u		10	0.43	ug/L

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MW-5	2018201-02	cis-Isosafrole	6/27/2020	5	Y	n	u		5.0	0.44	ug/L
MW-5	2018201-02	N-Nitrosodiethylamine	6/27/2020	10	Y	n	u		10	0.55	ug/L
MW-5	2018201-02	Isosafrole	6/27/2020	10	Y	n	u		10	0.73	ug/L
MW-5	2018201-02	Safrole	6/27/2020	10	Y	n	u		10	0.40	ug/L
MW-5	2018201-02	Methapyrilene	6/27/2020	10	Y	n	u		10	2.9	ug/L
MW-5	2018201-02	Methoxychlor	6/27/2020	10	Y	n	u		10	0.20	ug/L
MW-5	2018201-02	7,12-Dimethylbenz[a]anthracene	6/27/2020	10	Y	n	u	UJ	10	0.37	ug/L
MW-5	2018201-02	Methyl methacrylate	6/27/2020	40	Y	n	u		40	3.8	ug/L
MW-5	2018201-02	Methyl methanesulfonate	6/27/2020	10	Y	n	u		10	0.40	ug/L
MW-5	2018201-02	1-Methylnaphthalene	6/27/2020	10	Y	n	u		10	0.26	ug/L
MW-5	2018201-02	Methyl parathion	6/27/2020	10	Y	n	u		10	0.71	ug/L
MW-5	2018201-02	N-Methyl-2-pyrrolidinone	6/27/2020	10	Y	n	u		10	2.5	ug/L
MW-5	2018201-02	1,4-Naphthoquinone	6/27/2020	20	Y	n	u		20	0.87	ug/L
MW-5	2018201-02	3,3'-Dimethylbenzidine	6/27/2020	20	Y	n	u	UJ	20	0.42	ug/L
MW-5	2018201-02	5-Nitro-o-toluidine	6/27/2020	10	Y	n	u		10	0.85	ug/L
MW-5	2018201-02	trans-Isosafrole	6/27/2020	5	Y	n	u		5.0	0.29	ug/L
MW-5	2018201-02	Diethylstilbestrol	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Prowl	6/27/2020	10	Y	n	u		10	0.83	ug/L
MW-5	2018201-02	4-Chloro-1,3-phenylenediamine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Coumaphos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	p-Cresidine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Crotoxyphos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	2-Cyclohexyl-4,6-dinitrophenol	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Demeton-O	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Demeton-S	6/27/2020	0	Y	y	v				ug/L

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MW-5	2018201-02	2,4-Diaminotoluene	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Dibenz[a,j]acridine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	1,2-Dibromo-3-chloropropane	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	3-(Chloromethyl) pyridine hydrochloride	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Dicrotophos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	5-Chloro-2-methylaniline	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Diethyl sulfate	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Dihydrosafrole	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	3,3'-Dimethoxybenzidine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	1,2-Dinitrobenzene	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	1,4-Dinitrobenzene	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Dinocap	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Dioxathion	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Pronamide	6/27/2020	10	Y	n	u	UJ	10	0.22	ug/L
MW-5	2018201-02	2,3,4,6-Tetrachlorophenol	6/27/2020	10	Y	n	u	UJ	10	0.73	ug/L
MW-5	2018201-02	1,3,5-Trinitrobenzene	6/27/2020	10	Y	n	u	UJ	10	1.4	ug/L
MW-5	2018201-02	Pentachloroethane	6/27/2020	20	Y	n	u		20	0.31	ug/L
MW-5	2018201-02	Dichlorvos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Anilazine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Sulfotep	6/27/2020	10	Y	n	u		10	0.23	ug/L
MW-5	2018201-02	1,2,4,5-Tetrachlorobenzene	6/27/2020	10	Y	n	u		10	0.20	ug/L
MW-5	2018201-02	2,3,4,5-Tetrachlorophenol	6/27/2020	10	Y	n	u		10	5.0	ug/L
MW-5	2018201-02	4-Nitroquinoline 1-oxide	6/27/2020	20	Y	n	u	UJ	20	0.95	ug/L
MW-5	2018201-02	Thionazin	6/27/2020	10	Y	n	u		10	0.38	ug/L
MW-5	2018201-02	2-Toluidine	6/27/2020	10	Y	n	u		10	0.41	ug/L

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MW-5	2018201-02	Toxaphene	6/27/2020	100	Y	n	u		100	50	ug/L
MW-5	2018201-02	o,o,o-Triethylphosphorothioate	6/27/2020	10	Y	n	u		10	0.44	ug/L
MW-5	2018201-02	Pentachlorobenzene	6/27/2020	10	Y	n	u	UJ	10	0.20	ug/L
MW-5	2018201-02	Tris(hydroxymethyl)nitromethane	6/27/2020	50	Y	n	u		50	5.0	ug/L
MW-5	2018201-02	1-Acetyl-2-thiourea	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	4-Chloro-1,2-phenylenediamine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	3-Amino-9-ethylcarbazole	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Disulfoton	6/27/2020	10	Y	n	u		10	0.33	ug/L
MW-5	2018201-02	o-Anisidine	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Azinphos methyl	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Barban	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	p-Benzoquinone	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Bromoxynil	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Captafol	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Captan	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Carbaryl	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Carbofuran	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Carbophenothion	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	Chlorfenvinphos	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	2-Aminoanthraquinone	6/27/2020	0	Y	y	v				ug/L
MW-5	2018201-02	2,6-Dinitrotoluene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Hexachlorobenzene	6/27/2020	2	Y	n	u		2.0	0.25	ug/L
MW-5	2018201-02	4,4'-DDT	6/27/2020	2	Y	n	u		2.0	0.22	ug/L
MW-5	2018201-02	Dibenzo[a,h]anthracene	6/27/2020	3	Y	n	u		3.0	0.34	ug/L
MW-5	2018201-02	Dibenzofuran	6/27/2020	2	Y	n	u		2.0	0.20	ug/L

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MW-5	2018201-02	1,2-Dichlorobenzene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	1,3-Dichlorobenzene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	1,4-Dichlorobenzene	6/27/2020	2	Y	n	u		2.0	0.27	ug/L
MW-5	2018201-02	3,3-Dichlorobenzidine	6/27/2020	10	Y	n	u		10	0.53	ug/L
MW-5	2018201-02	Dieldrin	6/27/2020	3	Y	n	u		3.0	0.39	ug/L
MW-5	2018201-02	Diethyl phthalate	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Dimethyl phthalate	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	4,4'-DDD	6/27/2020	2	Y	n	u		2.0	0.26	ug/L
MW-5	2018201-02	2,4-Dinitrotoluene	6/27/2020	2	Y	n	u		2.0	0.40	ug/L
MW-5	2018201-02	Chrysene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Di-n-octyl phthalate	6/27/2020	2	Y	n	u		2.0	0.21	ug/L
MW-5	2018201-02	1,2-Diphenylhydrazine	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Endosulfan I	6/27/2020	10	Y	n	u		10	0.31	ug/L
MW-5	2018201-02	Endosulfan II	6/27/2020	10	Y	n	u		10	0.30	ug/L
MW-5	2018201-02	Endosulfan sulfate	6/27/2020	3	Y	n	u		3.0	0.23	ug/L
MW-5	2018201-02	Endrin	6/27/2020	2	Y	n	u		2.0	0.38	ug/L
MW-5	2018201-02	Ethyl methanesulfonate	6/27/2020	10	Y	n	u		10	0.61	ug/L
MW-5	2018201-02	Fluoranthene	6/27/2020	2	Y	n	u		2.0	0.28	ug/L
MW-5	2018201-02	Dimethyl sulfoxide (DMSO)	6/27/2020	10	Y	n	u		10	9.5	ug/L
MW-5	2018201-02	Heptachlor	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Heptachlor epoxide	6/27/2020	2	Y	n	u		2.0	0.26	ug/L
MW-5	2018201-02	Di-n-butyl phthalate	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	alpha-BHC	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Acenaphthylene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Aldrin	6/27/2020	2	Y	n	u		2.0	0.23	ug/L

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MW-5	2018201-02	Aniline	6/27/2020	5	Y	n	u		5.0	0.28	ug/L
MW-5	2018201-02	Anthracene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	2-Naphthylamine	6/27/2020	20	Y	n	u	UJ	20	1.3	ug/L
MW-5	2018201-02	Benzo[a]anthracene	6/27/2020	2	Y	n	u		2.0	0.21	ug/L
MW-5	2018201-02	Benzo[b]fluoranthene	6/27/2020	2	Y	n	u		2.0	0.24	ug/L
MW-5	2018201-02	Benzo[k]fluoranthene	6/27/2020	2	Y	n	u		2.0	0.30	ug/L
MW-5	2018201-02	Benzo[a]pyrene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Benzo[g,h,i]perylene	6/27/2020	2	Y	n	u		2.0	0.33	ug/L
MW-5	2018201-02	Benzoic acid	6/27/2020	10	Y	n	u		10	0.52	ug/L
MW-5	2018201-02	4,4'-DDE	6/27/2020	3	Y	n	u		3.0	0.24	ug/L
MW-5	2018201-02	Benzyl butyl phthalate	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Fluorene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	beta-BHC	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	delta-BHC	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	gamma-BHC (Lindane)	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	bis(2-Chloroethoxy)methane	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	bis(2-Chloroethyl) ether	6/27/2020	2	Y	n	u		2.0	0.31	ug/L
MW-5	2018201-02	bis(2-Chloroisopropyl)ether	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	bis(2-Ethylhexyl)phthalate	6/27/2020	4	Y	n	u		4.0	0.20	ug/L
MW-5	2018201-02	4-Bromophenyl phenyl ether	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	4-Chloroaniline	6/27/2020	2	Y	n	u		2.0	1.1	ug/L
MW-5	2018201-02	2-Chloronaphthalene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	4-Chlorophenyl phenyl ether	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Benzyl alcohol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Carbazole	6/27/2020	2	Y	n	u		2.0	0.20	ug/L

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MW-5	2018201-02	Hexachlorobutadiene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Pentachlorophenol	6/27/2020	10	Y	n	u		10	0.40	ug/L
MW-5	2018201-02	Endrin aldehyde	6/27/2020	10	Y	n	u		10	0.44	ug/L
MW-5	2018201-02	2,4,5-Trichlorophenol	6/27/2020	5	Y	n	u		5.0	0.20	ug/L
MW-5	2018201-02	2,4,6-Trichlorophenol	6/27/2020	5	Y	n	u		5.0	0.20	ug/L
MW-5	2018201-02	Acetophenone	6/27/2020	10	Y	n	u		10	0.33	ug/L
MW-5	2018201-02	Benzidine	6/27/2020	20	Y	n	u	UJ	20	1.6	ug/L
MW-5	2018201-02	Acrolein, dimethyl acetal	6/27/2020	40	Y	n	u		40	6.1	ug/L
MW-5	2018201-02	4-Aminobiphenyl	6/27/2020	20	Y	n	u		20	0.35	ug/L
MW-5	2018201-02	Benzaldehyde	6/27/2020	10	Y	n	u		10	2.9	ug/L
MW-5	2018201-02	Benefin	6/27/2020	10	Y	n	u		10	0.88	ug/L
MW-5	2018201-02	2-Nitrophenol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Caprolactam	6/27/2020	10	Y	n	u		10	3.6	ug/L
MW-5	2018201-02	4-Nitrophenol	6/27/2020	2	Y	n	u		2.0	0.30	ug/L
MW-5	2018201-02	Hexachlorophene	6/27/2020	200	Y	n	u	UJ	200	20	ug/L
MW-5	2018201-02	Chlorobenzilate	6/27/2020	10	Y	n	u		10	0.27	ug/L
MW-5	2018201-02	1-Chloronaphthalene	6/27/2020	10	Y	n	u		10	0.37	ug/L
MW-5	2018201-02	cis-Diallate	6/27/2020	5	Y	n	u		5.0	2.4	ug/L
MW-5	2018201-02	2-Acetylaminofluorene	6/27/2020	10	Y	n	u	UJ	10	0.78	ug/L
MW-5	2018201-02	Aramite	6/27/2020	10	Y	n	u	UJ	10	0.35	ug/L
MW-5	2018201-02	2,6-Dichlorophenol	6/27/2020	10	Y	n	u		10	0.28	ug/L
MW-5	2018201-02	Dimethoate	6/27/2020	20	Y	n	u		20	0.99	ug/L
MW-5	2018201-02	p-(Dimethylamino)azobenzene	6/27/2020	10	Y	n	u		10	0.27	ug/L
MW-5	2018201-02	cis-Chlordane	6/27/2020	5	Y	n	u	UJ	5.0	0.59	ug/L
MW-5	2018201-02	trans-Chlordane	6/27/2020	5	Y	n	u	UJ	5.0	0.55	ug/L

SDG: 2018201

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-5	2018201-02	a,a-Dimethylphenethylamine	6/27/2020	20	Y	n	u		20	4.9	ug/L
MW-5	2018201-02	1,1-Biphenyl	6/27/2020	10	Y	n	u		10	3.6	ug/L
MW-5	2018201-02	4-Nitroaniline	6/27/2020	5	Y	n	u		5.0	0.38	ug/L
MW-5	2018201-02	Hexachlorocyclopentadiene	6/27/2020	2	Y	n	u		2.0	0.31	ug/L
MW-5	2018201-02	Hexachloroethane	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Indeno[1,2,3-cd]pyrene	6/27/2020	2	Y	n	u		2.0	0.29	ug/L
MW-5	2018201-02	Isophorone	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	2-Methylnaphthalene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Naphthalene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	Phenol	6/27/2020	2	Y	n	u		2.0	0.21	ug/L
MW-5	2018201-02	3-Nitroaniline	6/27/2020	2	Y	n	u		2.0	0.22	ug/L
MW-5	2018201-02	Total Methylphenol	6/27/2020	4	Y	n	u		4.0	0.60	ug/L
MW-5	2018201-02	Nitrobenzene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	N-Nitrosodimethylamine	6/27/2020	2	Y	n	u		2.0	1.2	ug/L
MW-5	2018201-02	N-Nitrosodi-N-propylamine	6/27/2020	2	Y	n	u		2.0	0.21	ug/L
MW-5	2018201-02	2,4-Dimethylphenol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	3- & 4-Methylphenol	6/27/2020	2	Y	n	u		2.0	0.40	ug/L
MW-5	2018201-02	2-Methylphenol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	2-Nitroaniline	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	4,6-Dinitro-2-methylphenol	6/27/2020	10	Y	n	u		10	0.24	ug/L
MW-5	2018201-02	N-Nitrosodiphenylamine	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	2,4-Dichlorophenol	6/27/2020	2	Y	n	u		2.0	0.23	ug/L
MW-5	2018201-02	2-Chlorophenol	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	4-Chloro-3-methylphenol	6/27/2020	5	Y	n	u		5.0	0.20	ug/L
MW-5	2018201-02	1,2,4-Trichlorobenzene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L

SDG: 2018201

Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-5	2018201-02	Pyrene	6/27/2020	2	Y	n	u		2.0	0.22	ug/L
MW-5	2018201-02	Phenanthrene	6/27/2020	2	Y	n	u		2.0	0.20	ug/L
MW-5	2018201-02	2,4-Dinitrophenol	6/27/2020	10	Y	n	u		10	0.20	ug/L

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-10	2018201-03	Bicarbonate	6/26/2020	160	Y	y	v		5.0	5.0	mg/L
MW-10	2018201-03	Carbonate	6/26/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-10	2018201-03	Total Alkalinity as CaCO3	6/26/2020	130	Y	y	v		4.1	4.1	mg/L
MW-13	2018201-04	Bicarbonate	6/26/2020	190	Y	y	v		5.0	5.0	mg/L
MW-13	2018201-04	Carbonate	6/26/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-13	2018201-04	Total Alkalinity as CaCO3	6/26/2020	160	Y	y	v		4.1	4.1	mg/L
MW-5	2018201-02	Carbonate	6/26/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-5	2018201-02	Total Alkalinity as CaCO3	6/26/2020	120	Y	y	v		4.1	4.1	mg/L
MW-5	2018201-02	Bicarbonate	6/26/2020	150	Y	y	v		5.0	5.0	mg/L

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 13, 2020

Parameters: Volatiles

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018328

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TB-13-062520	2018328-01	Water	06/25/20
MW-1	2018328-02	Water	06/25/20
MW-6**	2018328-03**	Water	06/25/20
MW-7	2018328-04	Water	06/25/20
MW-8**	2018328-05**	Water	06/25/20
MW-9	2018328-06	Water	06/25/20
MW-15	2018328-07	Water	06/25/20
MW-16	2018328-08	Water	06/25/20
Dup-7-2Q2020	2018328-09	Water	06/25/20
Dup-8-2Q2020	2018328-10	Water	06/25/20
MW-6MS	2018328-03MS	Water	06/25/20
MW-6MSD	2018328-03MSD	Water	06/25/20
MW-8MS	2018328-05MS	Water	06/25/20
MW-8MSD	2018328-05MSD	Water	06/25/20

**Indicates sample underwent Level IV review

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 evaluation, 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 with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/18/20	Pentachloroethane	76.0	All samples in SDG 2018328	UJ (all non-detects)	P

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
06/30/20	Methyl iodide	48.2	All samples in SDG 2018328	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-13-062520 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-1 and Dup-8-2Q2020 and samples MW-15 and Dup-7-2Q2020 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

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 ICV %D and 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, 2Q2020
Volatiles - Data Qualification Summary - SDG 2018328

Sample	Compound	Flag	A or P	Reason
TB-13-062520 MW-1 MW-6** MW-7 MW-8** MW-9 MW-15 MW-16 Dup-7-2Q2020 Dup-8-2Q2020	Pentachloroethane	UJ (all non-detects)	P	Initial calibration verification (%D)
TB-13-062520 MW-1 MW-6** MW-7 MW-8** MW-9 MW-15 MW-16 Dup-7-2Q2020 Dup-8-2Q2020	Methyl iodide	UJ (all non-detects)	P	Continuing calibration (%D)

NASA JPL, 2Q2020
Volatiles - Laboratory Blank Data Qualification Summary - SDG 2018328

No Sample Data Qualified in this SDG

LDC #: 48752E1a

SDG #: 2018328

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 2/4/20

Page: 1 of 1

Reviewer: Q

2nd Reviewer: M

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/W	RSD≤20%. r²
IV.	Continuing calibration	W	%D≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	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+10.T+9
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-13-062520	2018328-01	Water	06/25/20
2	MW-1 D1	2018328-02	Water	06/25/20
3	MW-6**	2018328-03**	Water	06/25/20
4	MW-7	2018328-04	Water	06/25/20
5	MW-8**	2018328-05**	Water	06/25/20
6	MW-9	2018328-06	Water	06/25/20
7	MW-15 D	2018328-07	Water	06/25/20
8	MW-16	2018328-08	Water	06/25/20
9	Dup-7-2Q2020 D	2018328-09	Water	06/25/20
10	Dup-8-2Q2020 D1	2018328-10	Water	06/25/20
11	MW-6MS	2018328-03MS	Water	06/25/20
12	MW-6MSD	2018328-03MSD	Water	06/25/20
13	MW-8MS	2018328-05MS	Water	06/25/20
14	MW-8MSD	2018328-05MSD	Water	06/25/20

LDC #: 48752d1a

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: CV
2nd Reviewer: [illegible]

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 calibration				
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? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were 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				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for 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 for this SDG?	✓			

LDC #: 43762G1a

VALIDATION FINDINGS CHECKLIST

Reviewer: 0
2nd Reviewer: M

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) within 70-130%?	✓			
X. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were 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				
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 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.

LDC #: 48752E1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: PG
2nd Reviewer: FJ

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N N/A Were all %D within the validation criteria of ≤30 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/18/20	18JUN28	ZZZZ	76.0	All (ND)	J/UJ/P

LDC #: 48752E1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: 9
2nd Reviewer: TT

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y (N) N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
	6/30/20	30JUM03	Methyl iodide	48.2	All (ND)	J/UJ/P

LDC #: 48752E1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PG
2nd Reviewer: [illegible]

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 RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL (MS-V5)	6/29/20	K (1st internal standard)	0.7432065	0.7432065	0.73143	0.73143	2.22381	2.224
			S (2nd internal standard)	0.3601888	0.3601888	0.3467362	0.3467362	3.754152	3.754
			EE (3rd internal standard)	1.778651	1.77651	1.755033	1.755033	12.32981	12.330
			(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.

LDC #: 48752E1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: PG
2nd Reviewer: [illegible]

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 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

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	30JUN02	6/30/20	K (1st internal standard)	0.73143	0.7077904	0.7077903	3.2	3.2
			S (2nd internal standard)	0.3467362	0.3186477	0.3186477	8.1	8.1
			EE (3rd internal standard)	1.755033	1.602045	1.602045	8.7	8.7
			(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.

LDC #: 18152A9

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: Q
2nd reviewer: M

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: 5

	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
			Reported	Recalculated	
Toluene-d8	10.0	10.04	100	100	
Bromofluorobenzene	↓	10.33	103	103	
~~1,2-Dichlorobenzene-d4~~ 1,2-DCE	↓	10.49	105	105	
Dibromofluoromethane					

Sample ID:

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

Sample ID:

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

Sample ID:

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

LDC #: 48524g

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: 17

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 = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = 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 Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	ND	26.56	25.61	106	106	102	102	3.64	3.64
Trichloroethene	↓	↓	2.12	26.81	26.07	98.8	98.8	95.8	95.8	2.82	2.80
Benzene	↓	↓	ND	26.07	24.82	104	104	99.3	99.3	4.91	4.91
Toluene	↓	↓	↓	24.25	23.89	97	97	95.6	95.6	1.50	1.50
Chlorobenzene	↓	↓	↓	24.100	23.70	96.4	96.4	94.8	94.8	1.67	1.67

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 #: 48132q

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: 9
2nd Reviewer: 17

METHOD: GC/MS VOA (EPA Method 524.2)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy 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 = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: B081317-BS1

Compound	Spike Added (µg/L)		Spiked Sample Concentration (µg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	25.61	NA	102	102				
Trichloroethene	↓	↓	27.02		108	108				
Benzene			25.50	↓	102	102				
Toluene			24.43		97.7	97.7				
Chlorobenzene			24.35		97.4	97.4				

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.

LDC #: 48529

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: 5

METHOD: GC/MS VOA (EPA Method 524.2)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

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. 3, K:

Conc. = $\frac{(8352)(10.0)(\ )(\ )}{(23621)(0.7343)(\ )(\ )}$

= 0.48 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration ( )	Qualification
	3	K	0.48		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 13, 2020

Parameters: 1,4-Dioxane

Validation Level: Level III

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018328

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-16	2018328-08	Water	06/25/20

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:

1,4-Dioxane by Environmental Protection Agency (EPA) SW 846 Method 8270C

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 not 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

A decafluorotriphenylphosphine (DFTPP) tune was performed 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.

Where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

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.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

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. Surrogates

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

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
MW-16	Naphthalene-d8	137 (70-130)	1,4-Dioxane	NA	-

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

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.

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

NASA JPL, 2Q2020
1,4-Dioxane - Data Qualification Summary - SDG 2018328

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 2018328

No Sample Data Qualified in this SDG

LDC #: 48752E2c

SDG #: 2018328

Laboratory: BC Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 8/4/20

Page: 1 of 1

Reviewer: 9

2nd Reviewer: M

METHOD: GC/MS 1,4-Dioxane (EPA SW846 Method 8270C)

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≤15% or r²≥0.99 ICV≤20%
IV.	Continuing calibration	A	CCV≤20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
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; 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-16	2018328-08	Water	06/25/20
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

LDC #: T0158C

VALIDATION FINDINGS WORKSHEET

Surrogate Recovery

Page: 1 of 1
Reviewer: q
2nd Reviewer: F

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y [✓ N] N/A Were percent recoveries (%R) for surrogates within QC limits?

Y N [✓ N/A] If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?

Y N [✓ N/A] If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		1 (ND)	Naphthalene-d8	137 (70-130)	J dets/P
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

(NBZ) = Nitrobenzene-d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl-d14
(PHL) = Phenol-d5

(2FP)= 2-Fluorophenol
(TBP) = 2,4,6-Tribromophenol
(2CP) = 2-Chlorophenol-d4
(DCB) = 1,2-Dichlorobenzene-d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 18, 2020

Parameters: Metals

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018328

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1	2018328-02	Water	06/25/20
MW-7	2018328-04	Water	06/25/20
MW-8**	2018328-05**	Water	06/25/20
MW-9	2018328-06	Water	06/25/20
MW-15	2018328-07	Water	06/25/20
Dup-7-2Q2020	2018328-09	Water	06/25/20
Dup-8-2Q2020	2018328-10	Water	06/25/20
MW-8MS	2018328-05MS	Water	06/25/20
MW-8MSD	2018328-05MSD	Water	06/25/20
MW-16DUP	2018328-08DUP	Water	06/25/20

**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:

Arsenic, Calcium, Chromium, Iron, Lead, Magnesium, Potassium, and Sodium by Environmental Protection Agency (EPA) Methods 200.7/200.8

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 methods.

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

IV. ICP Interference Check Sample Analysis

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

V. 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)	Calcium	0.018287 mg/L	All samples in SDG 2018328
ICB/CCB	Chromium Magnesium	0.544 ug/L 0.024997 mg/L	All samples in SDG 2018328
ICB/CCB	Calcium	0.22342 mg/L	MW-1 MW-8**
ICB/CCB	Calcium	0.21753 mg/L	MW-7 MW-9 MW-15 Dup-7-2Q2020 Dup-8-2Q2020

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-9	Chromium	2.2 ug/L	2.2U ug/L
MW-15	Chromium	0.98 ug/L	0.98U ug/L
Dup-7-2Q2020	Chromium	1.1 ug/L	1.1U ug/L

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. For MW-8MS/MSD, no data were qualified for calcium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration. 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-15 and Dup-7-2Q2020 and samples MW-1 and Dup-8-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-15	Dup-7-2Q2020	
Arsenic	0.88 ug/L	0.86 ug/L	2

Analyte	Concentration		RPD
	MW-15	Dup-7-2Q2020	
Calcium	50 mg/L	47 mg/L	6
Chromium	0.98 ug/L	1.1 ug/L	12
Iron	45 ug/L	41 ug/L	9
Magnesium	16 mg/L	15 mg/L	6
Potassium	2.7 mg/L	2.7 mg/L	0
Sodium	25 mg/L	24 mg/L	4

Analyte	Concentration		RPD
	MW-1	Dup-8-2Q2020	
Calcium	76 mg/L	73 mg/L	4
Iron	30 ug/L	32 ug/L	6
Magnesium	23 mg/L	22 mg/L	4
Potassium	3.5 mg/L	3.3 mg/L	6
Sodium	33 mg/L	31 mg/L	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 methods. No results were rejected in this SDG.

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

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

NASA JPL, 2Q2020
Metals - Data Qualification Summary - SDG 2018328

No Sample Data Qualified in this SDG

NASA JPL, 2Q2020
Metals - Laboratory Blank Data Qualification Summary - SDG 2018328

Sample	Analyte	Modified Final Concentration	A or P
MW-9	Chromium	2.2U ug/L	A
MW-15	Chromium	0.98U ug/L	A
Dup-7-2Q2020	Chromium	1.1U ug/L	A

LDC #: 48752E4a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2018328 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer: CL

METHOD: Metals (EPA Method 200.7/200.8)

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	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	A	(8,9): Ca > 4X
VIII.	Duplicate sample analysis	A	10
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	SW	(5,6), (1,7)
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-1	2018328-02	Water	06/25/20
2	MW-7	2018328-04	Water	06/25/20
3	MW-8**	2018328-05**	Water	06/25/20
4	MW-9	2018328-06	Water	06/25/20
5	MW-15	2018328-07	Water	06/25/20
6	Dup-7-2Q2020	2018328-09	Water	06/25/20
7	Dup-8-2Q2020	2018328-10	Water	06/25/20
8	MW-8MS	2018328-05MS	Water	06/25/20
9	MW-8MSD	2018328-05MSD	Water	06/25/20
10	MW-16DUP	2018328-08DUP	Water	06/25/20
11				
12				
13				

Notes:

METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)				
Validation Area	**Yes**	**No**	**NA**	**Comments**
I. Technical holding times				
Were all technical holding times met?	X			
Were all water samples preserved to a pH of <2.	X			
II. ICP-MS Tune				
Were mass resolutions within 0.1 amu for all isotopes in the tuning solution?	X			
Were %RSDs of isoptoes in the tuning solution ≤5%?	X			
III. Calibration				
Were all instruments calibrated daily?	X			
Were the proper standards used?	X			
Were all initial and continuing calibration verifications within the 90-110% (80-120% for mercury) QC limits?	X			
Were the low level standard checks within 70-130%?			X	not provided
Were all initial calibration correlation coefficients within limits as specifed by the method?	X			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks?	X			
Was there contamination in the initial and continuing calibration blanks?	X			
V. Interference Check Sample				
Were the interference check samples performed daily?	X			
Were the AB solution recoveries within 80-120%?	X			
VI. Matrix Spike/Matrix Spike Duplicates/Laboratory Duplicates				
Were MS/MSD recoveries within the QC limits? (If the sample concentration exceeded the spike concentration by a factor of 4, no action was taken.)	X			
Were the MS/MSD or laboratory duplicate relative percent differences (RPDs) within the QC limits?	X			
VII. Laboratory Control Samples				
SDG?	X			

Were the LCS recoveries and RPDs (if applicable) within QC limits?	X			
METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)				
Validation Area	**Yes**	**No**	**NA**	**Comments**
VIII. Internal Standards				
Were all percent recoveries within the 30-120% (60-125% for EPA Method 200.8) QC limits?	X			
If the recoveries were outside the limits, was a reanalysis performed?			X	
IX. Serial Dilution				
Were all percent differences <10%?	X			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		X		
X. Sample Result Verification				
Were all reporting limits adjusted to reflect sample dilutions?	X			
Were all soil samples dry weight corrected?			X	
XI. Overall Assessment of Data				
Was the overall assessment of the data found to be acceptable?	X			
XII. Field Duplicates				
Were field duplicates identifed in this SDG?	X			
Were target analytes detected in the field duplicates?	X			
XIII. Field Blanks				
Were field blanks identified in this SDG?		X		
Were target analytes detected in the field blanks?			X	

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 7	Fe, As,Cr,Pb,Ca,Mg,Na,K
QC	
8,9,10	Fe, As,Cr,Pb,Ca,Mg,Na,K

Analysis Method

ICP	Fe,Ca,Mg,Na,K
ICP-MS	As,Cr,Pb
CVAA	

VALIDATION FINDINGS WORKSHEET
Laboratory Blank Contamination (PB/ICB/CCB)

METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: Associated Samples: all

				Sample Identification								
Analyte	**PB**	**Maximum ICB/CCB**	**Action Level**	4	5	6						
Cr (ug/L)		0.544	2.72	2.2	0.98	1.1						
Ca (mg/L)	0.018287		0.091435									
Mg (mg/L)		0.024997	0.124985									

Sample Concentration, unless otherwise noted: Associated Samples: 1,3

				Sample Identification								
Analyte	**PB**	**Maximum ICB/CCB**	**Action Level**									
Ca (mg/L)		0.022342	0.11171									

Sample Concentration, unless otherwise noted: Associated Samples: 2, 4 to 7

				Sample Identification								
Analyte	**PB**	**Maximum ICB/CCB**	**Action Level**									
Ca (mg/L)		0.021753	0.108765									

Method: Metals

Analyte	Concentration (mg/L)		RPD	Qualifiers (Parents Only)
	5	6		
Arsenic (ug/L)	0.88	0.86	2	
Calcium	50	47	6	
Chromium (ug/L)	0.98	1.1	12	
Iron (ug/L)	45	41	9	
Magnesium	16	15	6	
Potassium	2.7	2.7	0	
Sodium	25	24	4	

Analyte	Concentration (mg/L)		RPD	Qualifiers (Parents Only)
	1	7		
Calcium	76	73	4	
Iron (ug/L)	30	32	6	
Magnesium	23	22	4	
Potassium	3.5	3.3	6	
Sodium	33	31	6	

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

An intial calibration verification (ICV), continuing calibration verification (CCV), low level calibration check (LLCC), and interference check sample (ICSAB) percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = (Found/True) x 100

Found = concentration of each analyte measured in the analysis

True = concentration of each analyte in the source

Standard ID	Type of Analysis	Element	Found	True	Recalculated %R	Reported %R	Acceptable (Y/N)
ICV	ICP	Fe (mg/L)	20.34	20	101.7	102	Y
CCV	ICP	Na (mg/L)	49.96	50	99.92	99.9	Y
LLCC	ICP						
ICSAB	ICP	Mg (mg/L)	513.9	500	102.78	103	Y
ICV	ICP-MS	Cr (ug/L)	50.995	50	101.99	102	Y
CCV	ICP-MS	As (ug/L)	98.509	100	98.509	98.5	Y
LLCC	ICP-MS						
ICSAB	ICP-MS						
ICV	CVAA						
CCV	CVAA						

ICP-MS Tune	QC Parameter	Mass	Actual	Required
	Mass Axis	23.985	23.978	± 0.1 amu
	%RSD	114.9	0.9	≤ 5%

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

Percent recoveries (%R) for the laboratory control sample (LCS), matrix spike (MS), and post digestion spike (PDS) were recalculated using the following formula:

%R = (Found/True) x 100

Found = concentration of each analyte measured in the analysis. For the MS calculation, Found = SSR (Spiked Sample Result) - SR (Sample Result)

True = concentration of each analyte in the source

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

RPD = (Absolute value(S-D)x 200) / (S+D)

S = Original sample concentration

D = Duplicate sample concentration

The serial dilution percent difference (%D) was recalculated using the following formula.

%D = (Absolute value (I - SDR)) x 100 / (I)

I = Initial sample result

SDR = Serial dilution result (with a 5x dilution applied)

Sample ID	Type of Analysis	Element	Found/S/I	True/D/SDR	Recalculated %R/RPD/%D	Reported %R/RPD/%D	Acceptable (Y/N)
LCS	LCS	Na	10.78	10	107.8	108	Y
8	MS	As	110.224	100	110.224	110	Y
10	Duplicate	Fe	37.3	44.201	16.93476154	16.9	Y
3	PDS	Pb	102.623	100	102.623	103	Y
3	Serial dilution	Mg	16.225	15.83	2.49526216	2.5	Y

VALIDATION FINDINGS CHECKLIST
Sample Calculation Verification

Reviewer:

METHOD: Trace Metals (EPA SW 846 Methods 6010/6020/7000)
Analytes were recalculated and verified using the following equation:
Concentration = (Result from raw data x Final volume x Dilution factor) / (Initial volume)

Sample ID	Analyte	Raw Data	Dilution	Initial Weight/ Volume (ml)	Final Volume (ml)	Reported Result	Recalculated Result	Acceptable (Y/N)
3	Cr (ug/L)	5.951	1	50	50	6	5.951	Y
3	Fe (ug/L)	0.0442	1	50	50	44	44.2	Y
3	K (mg/L)	2.704	1	50	50	2.7	2.704	Y

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NASA JPL, 2Q2020

LDC Report Date: August 18, 2020

Parameters: Wet Chemistry

Validation Level: Level III & IV

Laboratory: BC Laboratories, Inc.

Sample Delivery Group (SDG): 2018328

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-1	2018328-02	Water	06/25/20
MW-6**	2018328-03**	Water	06/25/20
MW-7	2018328-04	Water	06/25/20
MW-8**	2018328-05**	Water	06/25/20
MW-9	2018328-06	Water	06/25/20
MW-15	2018328-07	Water	06/25/20
MW-16	2018328-08	Water	06/25/20
Dup-7-2Q2020	2018328-09	Water	06/25/20
Dup-8-2Q2020	2018328-10	Water	06/25/20
MW-6MS	2018328-03MS	Water	06/25/20
MW-6MSD	2018328-03MSD	Water	06/25/20
MW-6DUP	2018328-03DUP	Water	06/25/20
MW-8MS	2018328-05MS	Water	06/25/20
MW-8MSD	2018328-05MSD	Water	06/25/20
MW-8DUP	2018328-05DUP	Water	06/25/20

**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:

Alkalinity by Standard Method 2320B
Chloride, Nitrate as Nitrogen, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Nitrite as Nitrogen by EPA Method 353.2
Hexavalent Chromium by EPA Method 218.6
Orthophosphate as Phosphorus as EPA Method 365.1
Perchlorate by EPA Method 314.0
pH by EPA Method 150.1
Total Dissolved Solids by EPA Method 160.1

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-1	pH	92.350 hours	48 hours	J (all detects)	P
MW-6**	pH	95.683 hours	48 hours	J (all detects)	P
MW-7	pH	94.633 hours	48 hours	J (all detects)	P
MW-8**	pH	97.283 hours	48 hours	J (all detects)	P
MW-9	pH	92.983 hours	48 hours	J (all detects)	P
MW-15	pH	93.800 hours	48 hours	J (all detects)	P
MW-16	pH	94.483 hours	48 hours	J (all detects)	P
Dup-7-2Q2020	pH	93.950 hours	48 hours	J (all detects)	P
Dup-8-2Q2020	pH	94.433 hours	48 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	0.000034 mg/L	MW-1 MW-7 MW-8** MW-9 MW-15 Dup-7-2Q2020 Dup-8-2Q2020
PB (prep blank)	Chloride	0.16 mg/L	MW-8**
ICB/CCB	Chloride	0.312 mg/L	MW-8**
PB (prep blank)	Chloride	0.157 mg/L	MW-1 MW-6** MW-7 MW-9 MW-15 MW-16 Dup-7-2Q2020 Dup-8-2Q2020
ICB/CCB	Chloride Sulfate	0.219 mg/L 0.394 mg/L	MW-1 MW-6** MW-7 MW-9 MW-15 MW-16 Dup-7-2Q2020
ICB/CCB	Chloride Sulfate	0.176 mg/L 0.389 mg/L	Dup-8-2Q2020

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.

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-7-2Q2020 and samples MW-1 and Dup-8-2Q2020 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration		RPD
	MW-15	Dup-7-2Q2020	
Alkalinity, bicarbonate	160 mg/L	150 mg/L	6
Alkalinity, total	130 mg/L	120 mg/L	8
Chloride	26 mg/L	29 mg/L	11
Hexavalent chromium	0.00058 mg/L	0.00058 mg/L	0
Nitrate as N	0.47 mg/L	0.49 mg/L	4
pH	7.20 pH unit	7.17 pH unit	0
Sulfate	29 mg/L	27 mg/L	7
Total dissolved solids	270 mg/L	270 mg/L	0

Analyte	Concentration		RPD
	MW-1	Dup-8-2Q2020	
Alkalinity, bicarbonate	280 mg/L	280 mg/L	0
Alkalinity, total	230 mg/L	230 mg/L	0
Chloride	29 mg/L	28 mg/L	4
Nitrate as N	0.36 mg/L	0.42 mg/L	15
pH	7.73 pH unit	7.60 pH unit	2
Sulfate	57 mg/L	58 mg/L	2
Total dissolved solids	370 mg/L	340 mg/L	8

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 nine samples.

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

NASA JPL, 2Q2020
Wet Chemistry - Data Qualification Summary - SDG 2018328

Sample	Analyte	Flag	A or P	Reason
MW-1 MW-6** MW-7 MW-8** MW-9 MW-15 MW-16 Dup-7-2Q2020 Dup-8-2Q2020	pH	J (all detects)	P	Technical holding times

NASA JPL, 2Q2020
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 2018328

No Sample Data Qualified in this SDG

LDC #: 48752E6 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/13/20
SDG #: 2018328 Level III/IV Page: 1 of 1
Laboratory: BC Laboratories, Inc. Reviewer: ATL
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate-N, Sulfate (EPA Method 300.0), Nitrite-N (EPA Method 353.2), Hexavalent Chromium (EPA Method 218.6), Orthophosphate-P (EPA Method 365.1), Perchlorate (EPA Method 314.0), pH (EPA Method 150.1), TDS (EPA Method 160.1)

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	(10,11), (13,14)
VII.	Duplicate sample analysis	A	12,15
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	(6,8), (1,9)
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-1	2018328-02	Water	06/25/20
2	MW-6**	2018328-03**	Water	06/25/20
3	MW-7	2018328-04	Water	06/25/20
4	MW-8**	2018328-05**	Water	06/25/20
5	MW-9	2018328-06	Water	06/25/20
6	MW-15	2018328-07	Water	06/25/20
7	MW-16	2018328-08	Water	06/25/20
8	Dup-7-2Q2020	2018328-09	Water	06/25/20
9	Dup-8-2Q2020	2018328-10	Water	06/25/20
10	MW-6MS	2018328-03MS	Water	06/25/20
11	MW-6MSD	2018328-03MSD	Water	06/25/20
12	MW-6DUP	2018328-03DUP	Water	06/25/20
13	MW-8MS	2018328-05MS	Water	06/25/20
14	MW-8MSD	2018328-05MSD	Water	06/25/20
15	MW-8DUP	2018328-05DUP	Water	06/25/20
16				

METHOD: Inorganics				
Validation Area	**Yes**	**No**	**NA**	**Comments**
I. Technical holding times				
Were all technical holding times met?		X		
II. Calibration				
Were all instruments calibrated at the required frequency?	X			
Were the proper number of standards used?	X			
Were all initial and continuing calibration verifications within the QC limits?	X			
Were all initial calibration correlation coefficients within limits as specifed by the method?	X			
Were balance checks performed as required?	X			
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks?	X			
Was there contamination in the initial and continuing calibration blanks?	X			
IV. Matrix Spike/Matrix Spike Duplicates/Laboratory Duplicates				
Were MS/MSD recoveries within the QC limits? (If the sample concentration exceeded the spike concentration by a factor of 4, no action was taken.)	X			
Were the MS/MSD or laboratory duplicate relative percent differences (RPDs) within the QC limits?	X			
V. Laboratory Control Samples				
Was a LCS analyzed for each batch in the SDG?	X			
Were the LCS recoveries and RPDs (if applicable) within QC limits?	X			
X. Sample Result Verification				
Were all reporting limits adjusted to reflect sample dilutions?	X			
Were all soil samples dry weight corrected?			X	
XI. Overall Assessment of Data				
Was the overall assessment of the data found to be acceptable?	X			

METHOD: Inorganics				
Validation Area	**Yes**	**No**	**NA**	**Comments**
XII. Field Duplicates				
Were field duplicates identifed in this SDG?	X			
Were target analytes detected in the field duplicates?	X			
XIII. Field Blanks				
Were field blanks identified in this SDG?		X		
Were target analytes detected in the field blanks?			X	

All elements are applicable to each sample as noted below.

Sample ID	Target Analyte List
1 to 9	pH, TDS, Cl, NO3-N, SO4, ClO4, NO2-N, Alk
1,3 to 6, 8,9	Cr6+
3,4,7	PO4-P
QC	
12,15	pH, TDS, Alk
13,14,15	Cr6+, PO4-P
10 to 15	Cl, NO3-N, SO4, ClO4, NO2-N

METHOD: Inorganics

All samples were properly preserved and within the requried holding time with the following exceptions:

		Method: EPA 150.1 Analyte: pH Holding Time: 48hrs			
Sample ID	Sampling Date (change to CA time)	Analysis Date	Total Time from Collection to Analysis (hours)	Qualifier	Det/ND
1	6/25/2020 12:53	6/29/2020 9:14	92.350	J/UJ/P	det
2	6/25/2020 9:00	6/29/2020 8:41	95.683	J/UJ/P	det
3	6/25/2020 10:43	6/29/2020 9:21	94.633	J/UJ/P	det
4	6/25/2020 9:59	6/29/2020 11:16	97.283	J/UJ/P	det
5	6/25/2020 12:30	6/29/2020 9:29	92.983	J/UJ/P	det
6	6/25/2020 11:49	6/29/2020 9:37	93.800	J/UJ/P	det
7	6/25/2020 11:15	6/29/2020 9:44	94.483	J/UJ/P	det
8	6/25/2020 11:54	6/29/2020 9:51	93.950	J/UJ/P	det
9	6/25/2020 13:03	6/29/2020 11:29	94.433	J/UJ/P	det

Preservation

Sample ID	Preservation	Preservation Requirement (pH)	Qualifier	Det/ND

VALIDATION FINDINGS WORKSHEET
Laboratory Blank Contamination (PB/ICB/CCB)

METHOD: Inorganics
Soil preparation factor applied (if applicable):

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 1,3 to 6, 8,9

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Cr6+		0.000034	0.00017									

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 4

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Cl	0.16		0.8									
Cl		0.312	1.56									

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 1,2,3, 5 to 9

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Cl	0.157		0.785									

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 1,2,3, 5 to 8

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Cl		0.219	1.095									
SO4		0.394	1.97									

Sample Concentration, unless otherwise noted: mg/L Associated Samples: 9

				Sample Identification								
Analyte	**PB (mg/L)**	**Maximum ICB/CCB (mg/L)**	**Action Level**									
Cl		0.176	0.88									
SO4		0.389	1.945									

Comments: The listed analyte concentrtaion is the highest ICB or CCB detected in the analysis. The action level, when applicable, is establised at 5X the highest ICB, CCB, or PB concentration.

METHOD: Inorganics

Analyte	Concentration (mg/L)		RPD	Qualifiers (Parents Only)
	6	8		
Alkalinity Bicabonate	160	150	6	
Alkalinity Total	130	120	8	
Chloride	26	29	11	
Hexavalent Chromium	0.00058	0.00058	0	
Nitrate-N	0.47	0.49	4	
pH (pH unit)	7.20	7.17	0	
Sulfate	29	27	7	
Total Dissolved Solids	270	270	0	

Analyte	Concentration (mg/L)		RPD	Qualifiers (Parents Only)
	1	9		
Alkalinity Bicabonate	280	280	0	
Alkalinity Total	230	230	0	
Chloride	29	28	4	
Nitrate-N	0.36	0.42	15	
pH (pH unit)	7.73	7.60	2	
Sulfate	57	58	2	
Total Dissolved Solids	370	340	8	

LDC #: 48752E6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: ATL
2nd Reviewer:

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of ClO4 was recalculated. Calibration date: 07/01/20

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

%R = Found X 100 / 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 r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	ClO4	s1	2	0.0022	*0.9988*	0.9987	Y
		s2	4	0.0042			
		s3	6	0.0065			
		s4	10	0.0115			
		s5	20	0.0219			
Calibration verification	Cr6+	25.847	25		103.388	103	Y
Calibration verification	SO4	102.209	100		102.209	101	Y
Calibration verification	PO4-P	0.5154	0.5		103.08	103	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 CHECKLIST
Quality Control Sample Recalculations

METHOD: Inorganics

Percent recoveries (%R) for the laboratory control sample (LCS) and matrix spike (MS) were recalcuated using the following formula:
%R = (Found/True) x 100
Found = concentration of each analyte measured in the analysis. For the MS calculation, Found = SSR (Spiked Sample Result) - SR (Sample Result)
True = concentration of each analyte in the source
The sample and duplicate relative percent difference (RPD) was recalculated using the following formula:
RPD = (Absolute value(S-D)x 200) / (S+D)
S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found/S	True/D	Recalculated %R/RPD	Reported %R/RPD	Acceptable (Y/N)
LCS	LCS	Alkalinity	98.648	100	98.648	98.7	Y
10	MS	NO2-N	0.5266	0.52632	100.0531996	100	Y
15	Duplicate	pH	7.51	7.5	0.133244504	0.133	Y

METHOD: Inorganics

Analytes were recalculated and verified using the following equation:

Concentration = (Result from raw data x Final volume x Dilution factor) / (Percent solids (if applicable) x Initial weight or volume)

Sample ID	Analyte	Raw Data (mg/L)	Dilution	Initial Weight/ Volume (ml)	Final Volume (ml)	Percent solids (%)	Reported Result (mg/L)	Recalculated Result (mg/L)	Acceptable (Y/N)
2	pH (pH Units)	3.56	1	50	50	100	3.56	3.56	Y
2	TDS	172	3.33	50	50	100	570	572.76	Y
2	NO3-N	7.322	1	20	20	100	7.4	7.322	Y
2	ClO4- (ppb)	1.818	1	20	20	100	1.6	1.818	Y
2	NO2-N	-0.0015	1	20	20	100	ND	-0.0015	Y
2	Alk Bicarbonate	0	1	50	50	100	ND	0	Y
4	pH (pH Units)	7.5	1	50	50	100	7.5	7.5	Y
4	TDS	149	2	50	50	100	300	298	Y
4	Cr6+	0.000294	1	20	20	100	0.00029	0.000294	Y
4	Cl	23.848	1	20	20	100	24	23.848	Y
4	ClO4- (ppb)	0	1	20	20	100	ND	0	Y
4	NO2-N	-0.0015	1	20	20	100	ND	-0.0015	Y
4	PO4-P	0.0272	1	20	20	100	0.027	0.0272	Y
4	Alk Total	142.272	1	50	50	100	140	142.272	Y

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Analytical Method EPA-150.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-7-2Q2020	2018328-09	pH	6/29/2020	7.17	Y	y	v	J	0.05	0.05	pH Units
Dup-8-2Q2020	2018328-10	pH	6/29/2020	7.6	Y	y	v	J	0.05	0.05	pH Units
MW-1	2018328-02	pH	6/29/2020	7.73	Y	y	v	J	0.05	0.05	pH Units
MW-15	2018328-07	pH	6/29/2020	7.2	Y	y	v	J	0.05	0.05	pH Units
MW-16	2018328-08	pH	6/29/2020	7.78	Y	y	v	J	0.05	0.05	pH Units
MW-6	2018328-03	pH	6/29/2020	3.56	Y	y	v	J	0.05	0.05	pH Units
MW-7	2018328-04	pH	6/29/2020	7.55	Y	y	v	J	0.05	0.05	pH Units
MW-8	2018328-05	pH	6/29/2020	7.5	Y	y	v	J	0.05	0.05	pH Units
MW-9	2018328-06	pH	6/29/2020	7.22	Y	y	v	J	0.05	0.05	pH Units

Analytical Method EPA-160.1

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-7-2Q2020	2018328-09	Total Dissolved Solids @ 180 C	6/29/2020	270	Y	y	v		20	10	mg/L
Dup-8-2Q2020	2018328-10	Total Dissolved Solids @ 180 C	6/29/2020	340	Y	y	v		20	10	mg/L
MW-1	2018328-02	Total Dissolved Solids @ 180 C	6/29/2020	370	Y	y	v		20	10	mg/L
MW-15	2018328-07	Total Dissolved Solids @ 180 C	6/29/2020	270	Y	y	v		20	10	mg/L
MW-16	2018328-08	Total Dissolved Solids @ 180 C	6/29/2020	400	Y	y	v		20	10	mg/L
MW-6	2018328-03	Total Dissolved Solids @ 180 C	6/29/2020	570	Y	y	v		33	17	mg/L
MW-7	2018328-04	Total Dissolved Solids @ 180 C	6/29/2020	440	Y	y	v		33	17	mg/L
MW-8	2018328-05	Total Dissolved Solids @ 180 C	6/29/2020	300	Y	y	v		20	10	mg/L
MW-9	2018328-06	Total Dissolved Solids @ 180 C	6/29/2020	300	Y	y	v		20	10	mg/L

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-7-2Q2020	2018328-09	Total Recoverable Iron	6/30/2020	41	Y	y	v j		50	30	ug/L

SDG: 2018328

Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-7-2Q2020	2018328-09	Total Recoverable Potassium	6/30/2020	2.7	Y	y	v		1.0	0.10	mg/L
Dup-7-2Q2020	2018328-09	Total Recoverable Sodium	6/30/2020	24	Y	y	v		0.50	0.051	mg/L
Dup-7-2Q2020	2018328-09	Total Recoverable Calcium	6/30/2020	47	Y	y	v		0.10	0.014	mg/L
Dup-7-2Q2020	2018328-09	Total Recoverable Magnesium	6/30/2020	15	Y	y	v		0.050	0.019	mg/L
Dup-8-2Q2020	2018328-10	Total Recoverable Potassium	6/30/2020	3.3	Y	y	v		1.0	0.10	mg/L
Dup-8-2Q2020	2018328-10	Total Recoverable Iron	6/30/2020	32	Y	y	v j		50	30	ug/L
Dup-8-2Q2020	2018328-10	Total Recoverable Sodium	6/30/2020	31	Y	y	v		0.50	0.051	mg/L
Dup-8-2Q2020	2018328-10	Total Recoverable Calcium	6/30/2020	73	Y	y	v		0.10	0.014	mg/L
Dup-8-2Q2020	2018328-10	Total Recoverable Magnesium	6/30/2020	22	Y	y	v		0.050	0.019	mg/L
MW-1	2018328-02	Total Recoverable Magnesium	6/30/2020	23	Y	y	v		0.050	0.019	mg/L
MW-1	2018328-02	Total Recoverable Sodium	6/30/2020	33	Y	y	v		0.50	0.051	mg/L
MW-1	2018328-02	Total Recoverable Iron	6/30/2020	50	Y	n	u		50	30	ug/L
MW-1	2018328-02	Total Recoverable Calcium	6/30/2020	76	Y	y	v		0.10	0.014	mg/L
MW-1	2018328-02	Total Recoverable Potassium	6/30/2020	3.5	Y	y	v		1.0	0.10	mg/L
MW-15	2018328-07	Total Recoverable Iron	6/30/2020	45	Y	y	v j		50	30	ug/L
MW-15	2018328-07	Total Recoverable Potassium	6/30/2020	2.7	Y	y	v		1.0	0.10	mg/L
MW-15	2018328-07	Total Recoverable Sodium	6/30/2020	25	Y	y	v		0.50	0.051	mg/L
MW-15	2018328-07	Total Recoverable Calcium	6/30/2020	50	Y	y	v		0.10	0.014	mg/L
MW-15	2018328-07	Total Recoverable Magnesium	6/30/2020	16	Y	y	v		0.050	0.019	mg/L
MW-7	2018328-04	Total Recoverable Calcium	6/30/2020	67	Y	y	v		0.10	0.014	mg/L
MW-7	2018328-04	Total Recoverable Iron	6/30/2020	330	Y	y	v		50	30	ug/L
MW-7	2018328-04	Total Recoverable Potassium	6/30/2020	3.7	Y	y	v		1.0	0.10	mg/L
MW-7	2018328-04	Total Recoverable Sodium	6/30/2020	41	Y	y	v		0.50	0.051	mg/L
MW-7	2018328-04	Total Recoverable Magnesium	6/30/2020	22	Y	y	v		0.050	0.019	mg/L
MW-8	2018328-05	Total Recoverable Iron	6/30/2020	44	Y	y	v j		50	30	ug/L

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Analytical Method EPA-200.7

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-8	2018328-05	Total Recoverable Magnesium	6/30/2020	16	Y	y	v		0.050	0.019	mg/L
MW-8	2018328-05	Total Recoverable Potassium	6/30/2020	2.7	Y	y	v		1.0	0.10	mg/L
MW-8	2018328-05	Total Recoverable Sodium	6/30/2020	24	Y	y	v		0.50	0.051	mg/L
MW-8	2018328-05	Total Recoverable Calcium	6/30/2020	47	Y	y	v		0.10	0.014	mg/L
MW-9	2018328-06	Total Recoverable Calcium	6/30/2020	53	Y	y	v		0.10	0.014	mg/L
MW-9	2018328-06	Total Recoverable Potassium	6/30/2020	2.8	Y	y	v		1.0	0.10	mg/L
MW-9	2018328-06	Total Recoverable Sodium	6/30/2020	21	Y	y	v		0.50	0.051	mg/L
MW-9	2018328-06	Total Recoverable Magnesium	6/30/2020	17	Y	y	v		0.050	0.019	mg/L
MW-9	2018328-06	Total Recoverable Iron	6/30/2020	56	Y	y	v		50	30	ug/L

Analytical Method EPA-200.8

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-7-2Q2020	2018328-09	Total Recoverable Arsenic	6/30/2020	0.86	Y	y	v j		2.0	0.70	ug/L
Dup-7-2Q2020	2018328-09	Total Recoverable Lead	6/30/2020	1	Y	n	u		1.0	0.10	ug/L
Dup-7-2Q2020	2018328-09	Total Recoverable Chromium	6/30/2020	1.1	Y	y	v j	U	3.0	0.50	ug/L
Dup-8-2Q2020	2018328-10	Total Recoverable Chromium	6/30/2020	3	Y	n	u		3.0	0.50	ug/L
Dup-8-2Q2020	2018328-10	Total Recoverable Lead	6/30/2020	1	Y	n	u		1.0	0.10	ug/L
Dup-8-2Q2020	2018328-10	Total Recoverable Arsenic	6/30/2020	2	Y	n	u		2.0	0.70	ug/L
MW-1	2018328-02	Total Recoverable Arsenic	6/30/2020	2	Y	n	u		2.0	0.70	ug/L
MW-1	2018328-02	Total Recoverable Chromium	6/30/2020	3	Y	n	u		3.0	0.50	ug/L
MW-1	2018328-02	Total Recoverable Lead	6/30/2020	1	Y	n	u		1.0	0.10	ug/L
MW-15	2018328-07	Total Recoverable Lead	6/30/2020	1	Y	n	u		1.0	0.10	ug/L
MW-15	2018328-07	Total Recoverable Chromium	6/30/2020	0.98	Y	y	v j	U	3.0	0.50	ug/L
MW-15	2018328-07	Total Recoverable Arsenic	6/30/2020	0.88	Y	y	v j		2.0	0.70	ug/L
MW-7	2018328-04	Total Recoverable Lead	6/30/2020	1	Y	n	u		1.0	0.10	ug/L

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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-7	2018328-04	Total Recoverable Chromium	6/30/2020	37	Y	y	v		3.0	0.50	ug/L
MW-7	2018328-04	Total Recoverable Arsenic	6/30/2020	2	Y	n	u		2.0	0.70	ug/L
MW-8	2018328-05	Total Recoverable Chromium	6/30/2020	6	Y	y	v		3.0	0.50	ug/L
MW-8	2018328-05	Total Recoverable Arsenic	6/30/2020	2	Y	n	u		2.0	0.70	ug/L
MW-8	2018328-05	Total Recoverable Lead	6/30/2020	1	Y	n	u		1.0	0.10	ug/L
MW-9	2018328-06	Total Recoverable Arsenic	6/30/2020	2	Y	n	u		2.0	0.70	ug/L
MW-9	2018328-06	Total Recoverable Chromium	6/30/2020	2.2	Y	y	v j	U	3.0	0.50	ug/L
MW-9	2018328-06	Total Recoverable Lead	6/30/2020	1	Y	n	u		1.0	0.10	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
Dup-7-2Q2020	2018328-09	Hexavalent Chromium	6/30/2020	######	Y	y	v		0.0002	0.0000	mg/L
Dup-8-2Q2020	2018328-10	Hexavalent Chromium	6/30/2020	0.0002	Y	n	u		0.0002	0.0000	mg/L
MW-1	2018328-02	Hexavalent Chromium	6/30/2020	######	Y	n	u		0.0004	0.0000	mg/L
MW-15	2018328-07	Hexavalent Chromium	6/30/2020	######	Y	y	v		0.0002	0.0000	mg/L
MW-7	2018328-04	Hexavalent Chromium	6/30/2020	0.0012	Y	y	v		0.0002	0.0000	mg/L
MW-8	2018328-05	Hexavalent Chromium	6/30/2020	######	Y	y	v		0.0002	0.0000	mg/L
MW-9	2018328-06	Hexavalent Chromium	6/30/2020	######	Y	y	v		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
Dup-7-2Q2020	2018328-09	Chloride	6/26/2020	29	Y	y	v		0.50	0.13	mg/L
Dup-7-2Q2020	2018328-09	Nitrate as N	6/26/2020	0.49	Y	y	v		0.10	0.024	mg/L
Dup-7-2Q2020	2018328-09	Sulfate	6/26/2020	27	Y	y	v		1.0	0.14	mg/L
Dup-8-2Q2020	2018328-10	Nitrate as N	6/26/2020	0.42	Y	y	v		0.10	0.024	mg/L
Dup-8-2Q2020	2018328-10	Chloride	6/26/2020	28	Y	y	v		0.50	0.13	mg/L

SDG: 2018328

Analytical Method EPA-300.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-8-2Q2020	2018328-10	Sulfate	6/26/2020	58	Y	y	v		1.0	0.14	mg/L
MW-1	2018328-02	Chloride	6/26/2020	29	Y	y	v		0.50	0.13	mg/L
MW-1	2018328-02	Sulfate	6/26/2020	57	Y	y	v		1.0	0.14	mg/L
MW-1	2018328-02	Nitrate as N	6/26/2020	0.36	Y	y	v		0.10	0.024	mg/L
MW-15	2018328-07	Chloride	6/26/2020	26	Y	y	v		0.50	0.13	mg/L
MW-15	2018328-07	Nitrate as N	6/26/2020	0.47	Y	y	v		0.10	0.024	mg/L
MW-15	2018328-07	Sulfate	6/26/2020	29	Y	y	v		1.0	0.14	mg/L
MW-16	2018328-08	Chloride	6/26/2020	59	Y	y	v		0.50	0.13	mg/L
MW-16	2018328-08	Nitrate as N	6/26/2020	1.7	Y	y	v		0.10	0.024	mg/L
MW-16	2018328-08	Sulfate	6/26/2020	45	Y	y	v		1.0	0.14	mg/L
MW-6	2018328-03	Sulfate	6/26/2020	100	Y	y	v		1.0	0.14	mg/L
MW-6	2018328-03	Nitrate as N	6/26/2020	7.4	Y	y	v		0.10	0.024	mg/L
MW-6	2018328-03	Chloride	6/26/2020	110	Y	y	v		0.50	0.13	mg/L
MW-7	2018328-04	Sulfate	6/26/2020	49	Y	y	v		1.0	0.14	mg/L
MW-7	2018328-04	Nitrate as N	6/26/2020	1.2	Y	y	v		0.10	0.024	mg/L
MW-7	2018328-04	Chloride	6/26/2020	73	Y	y	v		0.50	0.13	mg/L
MW-8	2018328-05	Chloride	6/26/2020	24	Y	y	v		0.50	0.13	mg/L
MW-8	2018328-05	Nitrate as N	6/26/2020	1.1	Y	y	v		0.10	0.024	mg/L
MW-8	2018328-05	Sulfate	6/26/2020	38	Y	y	v		1.0	0.14	mg/L
MW-9	2018328-06	Chloride	6/26/2020	19	Y	y	v		0.50	0.13	mg/L
MW-9	2018328-06	Sulfate	6/26/2020	37	Y	y	v		1.0	0.14	mg/L
MW-9	2018328-06	Nitrate as N	6/26/2020	2.2	Y	y	v		0.10	0.024	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

SDG: 2018328

Analytical Method EPA-314.0

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-7-2Q2020	2018328-09	Perchlorate	7/2/2020	4	Y	n	u		4.0	0.81	ug/L
Dup-8-2Q2020	2018328-10	Perchlorate	7/2/2020	4	Y	n	u		4.0	0.81	ug/L
MW-1	2018328-02	Perchlorate	7/2/2020	4	Y	n	u		4.0	0.81	ug/L
MW-15	2018328-07	Perchlorate	7/2/2020	4	Y	n	u		4.0	0.81	ug/L
MW-16	2018328-08	Perchlorate	7/2/2020	4	Y	n	u		4.0	0.81	ug/L
MW-6	2018328-03	Perchlorate	7/2/2020	1.6	Y	y	v j		4.0	0.81	ug/L
MW-7	2018328-04	Perchlorate	7/3/2020	49	Y	y	v		20	4.0	ug/L
MW-8	2018328-05	Perchlorate	7/2/2020	4	Y	n	u		4.0	0.81	ug/L
MW-9	2018328-06	Perchlorate	7/2/2020	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
Dup-7-2Q2020	2018328-09	Nitrite as N	6/26/2020	0.05	Y	n	u		0.050	0.010	mg/L
Dup-8-2Q2020	2018328-10	Nitrite as N	6/26/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-1	2018328-02	Nitrite as N	6/26/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-15	2018328-07	Nitrite as N	6/26/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-16	2018328-08	Nitrite as N	6/26/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-6	2018328-03	Nitrite as N	6/26/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-7	2018328-04	Nitrite as N	6/26/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-8	2018328-05	Nitrite as N	6/26/2020	0.05	Y	n	u		0.050	0.010	mg/L
MW-9	2018328-06	Nitrite as N	6/26/2020	0.05	Y	n	u		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
MW-16	2018328-08	ortho-Phosphate as P	6/26/2020	0.27	Y	y	v		0.050	0.017	mg/L
MW-7	2018328-04	ortho-Phosphate as P	6/26/2020	0.027	Y	y	v j		0.050	0.017	mg/L

SDG: 2018328

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-8	2018328-05	ortho-Phosphate as P	6/26/2020	0.027	Y	y	v j		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
Dup-7-2Q2020	2018328-09	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-7-2Q2020	2018328-09	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-7-2Q2020	2018328-09	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-7-2Q2020	2018328-09	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-7-2Q2020	2018328-09	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-7-2Q2020	2018328-09	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-7-2Q2020	2018328-09	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-7-2Q2020	2018328-09	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-7-2Q2020	2018328-09	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-7-2Q2020	2018328-09	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-7-2Q2020	2018328-09	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-7-2Q2020	2018328-09	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-7-2Q2020	2018328-09	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-7-2Q2020	2018328-09	Hexachlorobutadiene	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
Dup-7-2Q2020	2018328-09	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-7-2Q2020	2018328-09	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-7-2Q2020	2018328-09	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-7-2Q2020	2018328-09	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-7-2Q2020	2018328-09	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-7-2Q2020	2018328-09	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-7-2Q2020	2018328-09	Chloroform	6/30/2020	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
Dup-7-2Q2020	2018328-09	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
Dup-7-2Q2020	2018328-09	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-7-2Q2020	2018328-09	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
Dup-7-2Q2020	2018328-09	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-7-2Q2020	2018328-09	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
Dup-7-2Q2020	2018328-09	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
Dup-7-2Q2020	2018328-09	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-7-2Q2020	2018328-09	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-7-2Q2020	2018328-09	Bromodichloromethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
Dup-7-2Q2020	2018328-09	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-7-2Q2020	2018328-09	1,3-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
Dup-7-2Q2020	2018328-09	Chloromethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
Dup-7-2Q2020	2018328-09	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-7-2Q2020	2018328-09	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
Dup-7-2Q2020	2018328-09	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
Dup-7-2Q2020	2018328-09	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
Dup-7-2Q2020	2018328-09	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
Dup-7-2Q2020	2018328-09	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
Dup-7-2Q2020	2018328-09	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-7-2Q2020	2018328-09	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-7-2Q2020	2018328-09	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
Dup-7-2Q2020	2018328-09	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
Dup-7-2Q2020	2018328-09	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
Dup-7-2Q2020	2018328-09	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
Dup-7-2Q2020	2018328-09	Hexachloroethane	6/30/2020	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
Dup-7-2Q2020	2018328-09	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
Dup-7-2Q2020	2018328-09	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
Dup-7-2Q2020	2018328-09	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
Dup-7-2Q2020	2018328-09	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
Dup-7-2Q2020	2018328-09	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
Dup-7-2Q2020	2018328-09	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
Dup-7-2Q2020	2018328-09	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
Dup-7-2Q2020	2018328-09	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
Dup-7-2Q2020	2018328-09	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-7-2Q2020	2018328-09	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
Dup-7-2Q2020	2018328-09	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
Dup-7-2Q2020	2018328-09	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
Dup-7-2Q2020	2018328-09	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
Dup-7-2Q2020	2018328-09	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
Dup-7-2Q2020	2018328-09	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
Dup-7-2Q2020	2018328-09	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
Dup-7-2Q2020	2018328-09	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-7-2Q2020	2018328-09	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
Dup-7-2Q2020	2018328-09	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-7-2Q2020	2018328-09	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
Dup-7-2Q2020	2018328-09	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-7-2Q2020	2018328-09	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
Dup-7-2Q2020	2018328-09	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L
Dup-7-2Q2020	2018328-09	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-7-2Q2020	2018328-09	Tetrachloroethene	6/30/2020	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
Dup-7-2Q2020	2018328-09	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-7-2Q2020	2018328-09	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-7-2Q2020	2018328-09	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-7-2Q2020	2018328-09	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-7-2Q2020	2018328-09	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-7-2Q2020	2018328-09	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
Dup-7-2Q2020	2018328-09	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
Dup-7-2Q2020	2018328-09	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-7-2Q2020	2018328-09	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
Dup-7-2Q2020	2018328-09	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-7-2Q2020	2018328-09	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
Dup-7-2Q2020	2018328-09	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
Dup-7-2Q2020	2018328-09	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-7-2Q2020	2018328-09	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-7-2Q2020	2018328-09	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-7-2Q2020	2018328-09	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
Dup-8-2Q2020	2018328-10	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-8-2Q2020	2018328-10	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-8-2Q2020	2018328-10	Tetrachloroethene	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
Dup-8-2Q2020	2018328-10	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-8-2Q2020	2018328-10	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-8-2Q2020	2018328-10	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-8-2Q2020	2018328-10	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-8-2Q2020	2018328-10	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L

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Dup-8-2Q2020	2018328-10	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-8-2Q2020	2018328-10	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
Dup-8-2Q2020	2018328-10	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
Dup-8-2Q2020	2018328-10	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-8-2Q2020	2018328-10	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
Dup-8-2Q2020	2018328-10	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-8-2Q2020	2018328-10	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	Hexachlorobutadiene	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
Dup-8-2Q2020	2018328-10	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-8-2Q2020	2018328-10	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-8-2Q2020	2018328-10	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-8-2Q2020	2018328-10	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-8-2Q2020	2018328-10	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
Dup-8-2Q2020	2018328-10	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-8-2Q2020	2018328-10	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-8-2Q2020	2018328-10	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-8-2Q2020	2018328-10	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-8-2Q2020	2018328-10	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
Dup-8-2Q2020	2018328-10	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
Dup-8-2Q2020	2018328-10	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
Dup-8-2Q2020	2018328-10	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	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-8-2Q2020	2018328-10	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-8-2Q2020	2018328-10	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
Dup-8-2Q2020	2018328-10	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-8-2Q2020	2018328-10	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
Dup-8-2Q2020	2018328-10	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
Dup-8-2Q2020	2018328-10	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
Dup-8-2Q2020	2018328-10	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
Dup-8-2Q2020	2018328-10	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
Dup-8-2Q2020	2018328-10	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
Dup-8-2Q2020	2018328-10	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
Dup-8-2Q2020	2018328-10	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
Dup-8-2Q2020	2018328-10	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L
Dup-8-2Q2020	2018328-10	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-8-2Q2020	2018328-10	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
Dup-8-2Q2020	2018328-10	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
Dup-8-2Q2020	2018328-10	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
Dup-8-2Q2020	2018328-10	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
Dup-8-2Q2020	2018328-10	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
Dup-8-2Q2020	2018328-10	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-8-2Q2020	2018328-10	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
Dup-8-2Q2020	2018328-10	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
Dup-8-2Q2020	2018328-10	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
Dup-8-2Q2020	2018328-10	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
Dup-8-2Q2020	2018328-10	Hexachloroethane	6/30/2020	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
Dup-8-2Q2020	2018328-10	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
Dup-8-2Q2020	2018328-10	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
Dup-8-2Q2020	2018328-10	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
Dup-8-2Q2020	2018328-10	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-8-2Q2020	2018328-10	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-8-2Q2020	2018328-10	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-8-2Q2020	2018328-10	Bromodichloromethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
Dup-8-2Q2020	2018328-10	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
Dup-8-2Q2020	2018328-10	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
Dup-8-2Q2020	2018328-10	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-8-2Q2020	2018328-10	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
Dup-8-2Q2020	2018328-10	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
Dup-8-2Q2020	2018328-10	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-8-2Q2020	2018328-10	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
Dup-8-2Q2020	2018328-10	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-8-2Q2020	2018328-10	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
Dup-8-2Q2020	2018328-10	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
Dup-8-2Q2020	2018328-10	Chloroform	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	1,3-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
Dup-8-2Q2020	2018328-10	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
Dup-8-2Q2020	2018328-10	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
Dup-8-2Q2020	2018328-10	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
Dup-8-2Q2020	2018328-10	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
Dup-8-2Q2020	2018328-10	Chloromethane	6/30/2020	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
Dup-8-2Q2020	2018328-10	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
Dup-8-2Q2020	2018328-10	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
Dup-8-2Q2020	2018328-10	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
MW-1	2018328-02	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2018328-02	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2018328-02	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2018328-02	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-1	2018328-02	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-1	2018328-02	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2018328-02	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-1	2018328-02	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2018328-02	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2018328-02	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-1	2018328-02	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-1	2018328-02	Hexachlorobutadiene	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-1	2018328-02	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2018328-02	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2018328-02	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2018328-02	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2018328-02	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2018328-02	1,3-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-1	2018328-02	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-1	2018328-02	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2018328-02	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2018328-02	Benzene	6/30/2020	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-1	2018328-02	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2018328-02	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-1	2018328-02	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-1	2018328-02	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-1	2018328-02	Bromodichloromethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-1	2018328-02	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2018328-02	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-1	2018328-02	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2018328-02	Chloromethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-1	2018328-02	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2018328-02	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2018328-02	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-1	2018328-02	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2018328-02	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2018328-02	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2018328-02	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
MW-1	2018328-02	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-1	2018328-02	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
MW-1	2018328-02	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-1	2018328-02	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-1	2018328-02	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2018328-02	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
MW-1	2018328-02	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
MW-1	2018328-02	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
MW-1	2018328-02	t-Amyl Methyl ether	6/30/2020	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-1	2018328-02	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
MW-1	2018328-02	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-1	2018328-02	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
MW-1	2018328-02	Tetrachloroethene	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-1	2018328-02	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
MW-1	2018328-02	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
MW-1	2018328-02	Hexachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-1	2018328-02	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L
MW-1	2018328-02	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
MW-1	2018328-02	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
MW-1	2018328-02	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-1	2018328-02	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
MW-1	2018328-02	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
MW-1	2018328-02	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-1	2018328-02	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
MW-1	2018328-02	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
MW-1	2018328-02	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-1	2018328-02	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-1	2018328-02	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2018328-02	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-1	2018328-02	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-1	2018328-02	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2018328-02	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
MW-1	2018328-02	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2018328-02	Chlorobenzene	6/30/2020	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-1	2018328-02	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-1	2018328-02	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-1	2018328-02	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-1	2018328-02	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
MW-1	2018328-02	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2018328-02	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
MW-1	2018328-02	Chloroform	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-1	2018328-02	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-1	2018328-02	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2018328-02	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-1	2018328-02	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-1	2018328-02	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
MW-1	2018328-02	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
MW-1	2018328-02	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
MW-1	2018328-02	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
MW-15	2018328-07	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-15	2018328-07	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2018328-07	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2018328-07	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2018328-07	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-15	2018328-07	Chloroform	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2018328-07	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2018328-07	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-15	2018328-07	Bromodichloromethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-15	2018328-07	Chloromethane	6/30/2020	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-15	2018328-07	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-15	2018328-07	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-15	2018328-07	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2018328-07	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-15	2018328-07	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2018328-07	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
MW-15	2018328-07	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
MW-15	2018328-07	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L
MW-15	2018328-07	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
MW-15	2018328-07	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2018328-07	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
MW-15	2018328-07	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-15	2018328-07	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
MW-15	2018328-07	Hexachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-15	2018328-07	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2018328-07	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2018328-07	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2018328-07	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
MW-15	2018328-07	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2018328-07	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2018328-07	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2018328-07	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
MW-15	2018328-07	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-15	2018328-07	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-15	2018328-07	2-Chlorotoluene	6/30/2020	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-15	2018328-07	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
MW-15	2018328-07	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
MW-15	2018328-07	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
MW-15	2018328-07	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
MW-15	2018328-07	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
MW-15	2018328-07	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
MW-15	2018328-07	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-15	2018328-07	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-15	2018328-07	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
MW-15	2018328-07	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
MW-15	2018328-07	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-15	2018328-07	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
MW-15	2018328-07	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
MW-15	2018328-07	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
MW-15	2018328-07	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
MW-15	2018328-07	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
MW-15	2018328-07	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2018328-07	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2018328-07	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2018328-07	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-15	2018328-07	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-15	2018328-07	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2018328-07	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2018328-07	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-15	2018328-07	1,3-Dichlorobenzene	6/30/2020	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-15	2018328-07	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2018328-07	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-15	2018328-07	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-15	2018328-07	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
MW-15	2018328-07	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2018328-07	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
MW-15	2018328-07	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-15	2018328-07	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-15	2018328-07	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2018328-07	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2018328-07	Tetrachloroethene	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-15	2018328-07	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-15	2018328-07	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-15	2018328-07	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2018328-07	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-15	2018328-07	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-15	2018328-07	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2018328-07	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-15	2018328-07	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2018328-07	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-15	2018328-07	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-15	2018328-07	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2018328-07	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-15	2018328-07	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-15	2018328-07	Hexachlorobutadiene	6/30/2020	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-15	2018328-07	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-15	2018328-07	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-16	2018328-08	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-16	2018328-08	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
MW-16	2018328-08	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-16	2018328-08	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
MW-16	2018328-08	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-16	2018328-08	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-16	2018328-08	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-16	2018328-08	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
MW-16	2018328-08	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-16	2018328-08	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-16	2018328-08	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-16	2018328-08	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-16	2018328-08	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-16	2018328-08	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-16	2018328-08	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-16	2018328-08	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-16	2018328-08	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-16	2018328-08	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-16	2018328-08	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
MW-16	2018328-08	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
MW-16	2018328-08	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-16	2018328-08	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-16	2018328-08	1,4-Dichlorobenzene	6/30/2020	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-16	2018328-08	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-16	2018328-08	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
MW-16	2018328-08	Chloromethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-16	2018328-08	1,3-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-16	2018328-08	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
MW-16	2018328-08	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
MW-16	2018328-08	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
MW-16	2018328-08	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
MW-16	2018328-08	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
MW-16	2018328-08	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-16	2018328-08	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-16	2018328-08	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-16	2018328-08	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
MW-16	2018328-08	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
MW-16	2018328-08	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-16	2018328-08	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-16	2018328-08	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
MW-16	2018328-08	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
MW-16	2018328-08	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
MW-16	2018328-08	Hexachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-16	2018328-08	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-16	2018328-08	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
MW-16	2018328-08	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
MW-16	2018328-08	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
MW-16	2018328-08	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	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-16	2018328-08	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
MW-16	2018328-08	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-16	2018328-08	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-16	2018328-08	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-16	2018328-08	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-16	2018328-08	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-16	2018328-08	Carbon tetrachloride	6/30/2020	0.35	Y	y	v j		0.50	0.17	ug/L
MW-16	2018328-08	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-16	2018328-08	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-16	2018328-08	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-16	2018328-08	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-16	2018328-08	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-16	2018328-08	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-16	2018328-08	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-16	2018328-08	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-16	2018328-08	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-16	2018328-08	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-16	2018328-08	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-16	2018328-08	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-16	2018328-08	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
MW-16	2018328-08	Chloroform	6/30/2020	1.2	Y	y	v		0.50	0.14	ug/L
MW-16	2018328-08	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-16	2018328-08	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-16	2018328-08	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-16	2018328-08	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	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-16	2018328-08	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-16	2018328-08	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-16	2018328-08	Hexachlorobutadiene	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-16	2018328-08	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-16	2018328-08	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-16	2018328-08	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-16	2018328-08	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-16	2018328-08	Tetrachloroethene	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-16	2018328-08	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-16	2018328-08	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-16	2018328-08	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-16	2018328-08	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-16	2018328-08	Bromodichloromethane	6/30/2020	0.34	Y	y	v j		0.50	0.20	ug/L
MW-16	2018328-08	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
MW-6	2018328-03	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
MW-6	2018328-03	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-6	2018328-03	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-6	2018328-03	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
MW-6	2018328-03	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-6	2018328-03	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-6	2018328-03	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-6	2018328-03	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
MW-6	2018328-03	Diethyl ether	6/30/2020	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-6	2018328-03	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
MW-6	2018328-03	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
MW-6	2018328-03	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
MW-6	2018328-03	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-6	2018328-03	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-6	2018328-03	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
MW-6	2018328-03	Hexachlorobutadiene	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-6	2018328-03	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-6	2018328-03	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-6	2018328-03	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-6	2018328-03	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-6	2018328-03	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-6	2018328-03	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-6	2018328-03	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-6	2018328-03	Chloromethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-6	2018328-03	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-6	2018328-03	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-6	2018328-03	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-6	2018328-03	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-6	2018328-03	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-6	2018328-03	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-6	2018328-03	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-6	2018328-03	1,3-Dichlorobenzene	6/30/2020	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-6	2018328-03	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-6	2018328-03	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
MW-6	2018328-03	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-6	2018328-03	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-6	2018328-03	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-6	2018328-03	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-6	2018328-03	Chloroform	6/30/2020	0.48	Y	y	v j		0.50	0.14	ug/L
MW-6	2018328-03	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-6	2018328-03	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-6	2018328-03	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-6	2018328-03	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-6	2018328-03	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-6	2018328-03	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
MW-6	2018328-03	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-6	2018328-03	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-6	2018328-03	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-6	2018328-03	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-6	2018328-03	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
MW-6	2018328-03	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
MW-6	2018328-03	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
MW-6	2018328-03	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-6	2018328-03	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
MW-6	2018328-03	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	trans-1,4-Dichloro-2-butene	6/30/2020	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-6	2018328-03	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
MW-6	2018328-03	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
MW-6	2018328-03	Hexachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-6	2018328-03	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-6	2018328-03	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
MW-6	2018328-03	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-6	2018328-03	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
MW-6	2018328-03	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L
MW-6	2018328-03	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-6	2018328-03	Tetrachloroethene	6/30/2020	0.44	Y	y	v j		0.50	0.23	ug/L
MW-6	2018328-03	Bromodichloromethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-6	2018328-03	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
MW-6	2018328-03	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-6	2018328-03	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-6	2018328-03	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-6	2018328-03	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-6	2018328-03	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-6	2018328-03	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-6	2018328-03	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-6	2018328-03	Trichloroethene	6/30/2020	2.1	Y	y	v		0.50	0.19	ug/L
MW-6	2018328-03	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-6	2018328-03	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-6	2018328-03	1,2,4-Trichlorobenzene	6/30/2020	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-6	2018328-03	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
MW-7	2018328-04	1,3-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-7	2018328-04	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-7	2018328-04	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-7	2018328-04	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
MW-7	2018328-04	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-7	2018328-04	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-7	2018328-04	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-7	2018328-04	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-7	2018328-04	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-7	2018328-04	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-7	2018328-04	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-7	2018328-04	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-7	2018328-04	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-7	2018328-04	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-7	2018328-04	Chloromethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-7	2018328-04	Chloroform	6/30/2020	6	Y	y	v		0.50	0.14	ug/L
MW-7	2018328-04	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-7	2018328-04	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-7	2018328-04	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-7	2018328-04	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-7	2018328-04	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-7	2018328-04	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-7	2018328-04	Bromodichloromethane	6/30/2020	0.22	Y	y	v j		0.50	0.20	ug/L
MW-7	2018328-04	Bromochloromethane	6/30/2020	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-7	2018328-04	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-7	2018328-04	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-7	2018328-04	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-7	2018328-04	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-7	2018328-04	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-7	2018328-04	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
MW-7	2018328-04	Tetrachloroethene	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-7	2018328-04	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
MW-7	2018328-04	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-7	2018328-04	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
MW-7	2018328-04	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L
MW-7	2018328-04	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
MW-7	2018328-04	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
MW-7	2018328-04	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
MW-7	2018328-04	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-7	2018328-04	Hexachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-7	2018328-04	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
MW-7	2018328-04	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
MW-7	2018328-04	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
MW-7	2018328-04	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-7	2018328-04	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-7	2018328-04	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
MW-7	2018328-04	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-7	2018328-04	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
MW-7	2018328-04	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	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-7	2018328-04	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-7	2018328-04	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
MW-7	2018328-04	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
MW-7	2018328-04	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
MW-7	2018328-04	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
MW-7	2018328-04	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
MW-7	2018328-04	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
MW-7	2018328-04	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-7	2018328-04	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
MW-7	2018328-04	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-7	2018328-04	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-7	2018328-04	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-7	2018328-04	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-7	2018328-04	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-7	2018328-04	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-7	2018328-04	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-7	2018328-04	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-7	2018328-04	Hexachlorobutadiene	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-7	2018328-04	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-7	2018328-04	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-7	2018328-04	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-7	2018328-04	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
MW-7	2018328-04	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-7	2018328-04	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-7	2018328-04	1,3,5-Trimethylbenzene	6/30/2020	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-7	2018328-04	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-7	2018328-04	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-7	2018328-04	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
MW-7	2018328-04	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-7	2018328-04	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-7	2018328-04	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-7	2018328-04	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-7	2018328-04	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-7	2018328-04	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-7	2018328-04	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-7	2018328-04	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-7	2018328-04	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-7	2018328-04	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2018328-05	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-8	2018328-05	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
MW-8	2018328-05	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L
MW-8	2018328-05	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
MW-8	2018328-05	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-8	2018328-05	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
MW-8	2018328-05	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
MW-8	2018328-05	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
MW-8	2018328-05	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-8	2018328-05	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2018328-05	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2018328-05	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	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-8	2018328-05	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
MW-8	2018328-05	Trichlorofluoromethane	6/30/2020	0.2	Y	y	v j		0.50	0.14	ug/L
MW-8	2018328-05	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-8	2018328-05	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2018328-05	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2018328-05	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2018328-05	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-8	2018328-05	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2018328-05	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2018328-05	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2018328-05	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
MW-8	2018328-05	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
MW-8	2018328-05	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
MW-8	2018328-05	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
MW-8	2018328-05	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
MW-8	2018328-05	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
MW-8	2018328-05	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
MW-8	2018328-05	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-8	2018328-05	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-8	2018328-05	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
MW-8	2018328-05	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
MW-8	2018328-05	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
MW-8	2018328-05	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
MW-8	2018328-05	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
MW-8	2018328-05	Methyl iodide	6/30/2020	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-8	2018328-05	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
MW-8	2018328-05	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
MW-8	2018328-05	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
MW-8	2018328-05	Hexachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-8	2018328-05	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-8	2018328-05	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2018328-05	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
MW-8	2018328-05	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2018328-05	Tetrachloroethene	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-8	2018328-05	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2018328-05	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-8	2018328-05	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-8	2018328-05	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
MW-8	2018328-05	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-8	2018328-05	Chloromethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-8	2018328-05	Chloroform	6/30/2020	0.31	Y	y	v j		0.50	0.14	ug/L
MW-8	2018328-05	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2018328-05	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2018328-05	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2018328-05	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-8	2018328-05	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-8	2018328-05	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2018328-05	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-8	2018328-05	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-8	2018328-05	Bromodichloromethane	6/30/2020	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-8	2018328-05	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-8	2018328-05	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2018328-05	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2018328-05	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2018328-05	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-8	2018328-05	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-8	2018328-05	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-8	2018328-05	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2018328-05	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-8	2018328-05	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2018328-05	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-8	2018328-05	Hexachlorobutadiene	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-8	2018328-05	1,3-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-8	2018328-05	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-8	2018328-05	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-8	2018328-05	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-8	2018328-05	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-8	2018328-05	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-8	2018328-05	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2018328-05	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2018328-05	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-8	2018328-05	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-8	2018328-05	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-8	2018328-05	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-8	2018328-05	Ethylbenzene	6/30/2020	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-9	2018328-06	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2018328-06	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
MW-9	2018328-06	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2018328-06	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
MW-9	2018328-06	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-9	2018328-06	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2018328-06	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2018328-06	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
MW-9	2018328-06	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2018328-06	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
MW-9	2018328-06	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2018328-06	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2018328-06	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2018328-06	Tetrachloroethene	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-9	2018328-06	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2018328-06	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2018328-06	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-9	2018328-06	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
MW-9	2018328-06	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-9	2018328-06	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2018328-06	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	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-9	2018328-06	tert-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-9	2018328-06	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
MW-9	2018328-06	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
MW-9	2018328-06	Methyl acrylate	6/30/2020	0	Y	y	v				ug/L
MW-9	2018328-06	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
MW-9	2018328-06	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
MW-9	2018328-06	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
MW-9	2018328-06	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-9	2018328-06	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
MW-9	2018328-06	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L
MW-9	2018328-06	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
MW-9	2018328-06	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
MW-9	2018328-06	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
MW-9	2018328-06	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
MW-9	2018328-06	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
MW-9	2018328-06	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
MW-9	2018328-06	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
MW-9	2018328-06	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
MW-9	2018328-06	Hexachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-9	2018328-06	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
MW-9	2018328-06	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
MW-9	2018328-06	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
MW-9	2018328-06	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
MW-9	2018328-06	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2018328-06	1,2-Dichlorobenzene	6/30/2020	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-9	2018328-06	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
MW-9	2018328-06	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-9	2018328-06	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
MW-9	2018328-06	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
MW-9	2018328-06	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
MW-9	2018328-06	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	Chloromethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-9	2018328-06	1,3-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
MW-9	2018328-06	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-9	2018328-06	Chloroform	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-9	2018328-06	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
MW-9	2018328-06	Bromodichloromethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
MW-9	2018328-06	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-9	2018328-06	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2018328-06	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
MW-9	2018328-06	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
MW-9	2018328-06	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
MW-9	2018328-06	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2018328-06	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
MW-9	2018328-06	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2018328-06	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2018328-06	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	Hexachlorobutadiene	6/30/2020	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-9	2018328-06	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2018328-06	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
MW-9	2018328-06	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
MW-9	2018328-06	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
MW-9	2018328-06	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2018328-06	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2018328-06	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2018328-06	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-9	2018328-06	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
MW-9	2018328-06	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
MW-9	2018328-06	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
MW-9	2018328-06	trans-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-13-062520	2018328-01	Styrene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-13-062520	2018328-01	n-Propylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.12	ug/L
TB-13-062520	2018328-01	Naphthalene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-13-062520	2018328-01	Methyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	Methylene chloride	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-13-062520	2018328-01	1,1-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-13-062520	2018328-01	p-Isopropyltoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	cis-1,3-Dichloropropene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	1,1,1,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-13-062520	2018328-01	1,2,4-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-13-062520	2018328-01	Hexachlorobutadiene	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-13-062520	2018328-01	Ethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-13-062520	2018328-01	trans-1,3-Dichloropropene	6/30/2020	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
TB-13-062520	2018328-01	Isopropylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	1,1,2,2-Tetrachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-13-062520	2018328-01	Tetrachloroethene	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-13-062520	2018328-01	Toluene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-13-062520	2018328-01	1,2,3-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-13-062520	2018328-01	1,2,4-Trichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-13-062520	2018328-01	1,3,5-Trimethylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	1,1,2-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-13-062520	2018328-01	1,1,2-Trichloro-1,2,2-trifluoroethane	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-13-062520	2018328-01	Trichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-13-062520	2018328-01	2,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-13-062520	2018328-01	Carbon tetrachloride	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-13-062520	2018328-01	Trichlorofluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	1,2,3-Trichloropropane	6/30/2020	1	Y	n	u		1.0	0.78	ug/L
TB-13-062520	2018328-01	1,1,1-Trichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-13-062520	2018328-01	1,2-Dibromoethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-13-062520	2018328-01	Chloromethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-13-062520	2018328-01	2-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	4-Chlorotoluene	6/30/2020	0.5	Y	n	u		0.50	0.093	ug/L
TB-13-062520	2018328-01	Bromobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-13-062520	2018328-01	Vinyl chloride	6/30/2020	0.5	Y	n	u		0.50	0.18	ug/L
TB-13-062520	2018328-01	Chloroform	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	Chloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-13-062520	2018328-01	Chlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.14	ug/L
TB-13-062520	2018328-01	tert-Butylbenzene	6/30/2020	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
TB-13-062520	2018328-01	n-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-13-062520	2018328-01	Bromomethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-13-062520	2018328-01	sec-Butylbenzene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-13-062520	2018328-01	1,2-Dibromo-3-chloropropane	6/30/2020	1	Y	n	u		1.0	0.89	ug/L
TB-13-062520	2018328-01	1,3-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-13-062520	2018328-01	Bromoform	6/30/2020	0.5	Y	n	u		0.50	0.46	ug/L
TB-13-062520	2018328-01	Dibromomethane	6/30/2020	0.5	Y	n	u		0.50	0.23	ug/L
TB-13-062520	2018328-01	1,2-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.21	ug/L
TB-13-062520	2018328-01	1,3-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.16	ug/L
TB-13-062520	2018328-01	1,4-Dichlorobenzene	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-13-062520	2018328-01	Dichlorodifluoromethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-13-062520	2018328-01	1,1-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-13-062520	2018328-01	1,2-Dichloroethane	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-13-062520	2018328-01	1,1-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-13-062520	2018328-01	cis-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-13-062520	2018328-01	trans-1,2-Dichloroethene	6/30/2020	0.5	Y	n	u		0.50	0.17	ug/L
TB-13-062520	2018328-01	1,2-Dichloropropane	6/30/2020	0.5	Y	n	u		0.50	0.15	ug/L
TB-13-062520	2018328-01	Dibromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.22	ug/L
TB-13-062520	2018328-01	Methyl methacrylate	6/30/2020	5	Y	n	u		5.0	1.2	ug/L
TB-13-062520	2018328-01	Bromodichloromethane	6/30/2020	0.5	Y	n	u		0.50	0.20	ug/L
TB-13-062520	2018328-01	Bromochloromethane	6/30/2020	0.5	Y	n	u		0.50	0.27	ug/L
TB-13-062520	2018328-01	Benzene	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-13-062520	2018328-01	Acetone	6/30/2020	10	Y	n	u		10	6.6	ug/L
TB-13-062520	2018328-01	Nitrobenzene	6/30/2020	0	Y	y	v				ug/L
TB-13-062520	2018328-01	Methyl acrylate	6/30/2020	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
TB-13-062520	2018328-01	1,1-Dichloropropanone	6/30/2020	0	Y	y	v				ug/L
TB-13-062520	2018328-01	1-Chlorobutane	6/30/2020	0	Y	y	v				ug/L
TB-13-062520	2018328-01	Chloroacetonitrile	6/30/2020	0	Y	y	v				ug/L
TB-13-062520	2018328-01	o-Xylene	6/30/2020	0.5	Y	n	u		0.50	0.13	ug/L
TB-13-062520	2018328-01	p- & m-Xylenes	6/30/2020	0.5	Y	n	u		0.50	0.34	ug/L
TB-13-062520	2018328-01	Tetrahydrofuran	6/30/2020	20	Y	n	u		20	5.2	ug/L
TB-13-062520	2018328-01	Pentachloroethane	6/30/2020	2	Y	n	u	UJ	2.0	0.63	ug/L
TB-13-062520	2018328-01	2-Nitropropane	6/30/2020	0	Y	y	v				ug/L
TB-13-062520	2018328-01	Diethyl ether	6/30/2020	2	Y	n	u		2.0	0.33	ug/L
TB-13-062520	2018328-01	Acrylonitrile	6/30/2020	5	Y	n	u		5.0	1.5	ug/L
TB-13-062520	2018328-01	Allyl chloride	6/30/2020	5	Y	n	u		5.0	0.47	ug/L
TB-13-062520	2018328-01	t-Amyl Methyl ether	6/30/2020	0.5	Y	n	u		0.50	0.19	ug/L
TB-13-062520	2018328-01	t-Butyl alcohol	6/30/2020	10	Y	n	u		10	9.4	ug/L
TB-13-062520	2018328-01	Propionitrile	6/30/2020	20	Y	n	u		20	6.2	ug/L
TB-13-062520	2018328-01	trans-1,4-Dichloro-2-butene	6/30/2020	5	Y	n	u		5.0	1.8	ug/L
TB-13-062520	2018328-01	Methyl isobutyl ketone	6/30/2020	10	Y	n	u		10	2.4	ug/L
TB-13-062520	2018328-01	Ethyl methacrylate	6/30/2020	4	Y	n	u		4.0	1.3	ug/L
TB-13-062520	2018328-01	Ethyl t-butyl ether	6/30/2020	0.5	Y	n	u		0.50	0.32	ug/L
TB-13-062520	2018328-01	Hexachloroethane	6/30/2020	0.5	Y	n	u		0.50	0.11	ug/L
TB-13-062520	2018328-01	2-Hexanone	6/30/2020	10	Y	n	u		10	5.0	ug/L
TB-13-062520	2018328-01	Methacrylonitrile	6/30/2020	10	Y	n	u		10	2.3	ug/L
TB-13-062520	2018328-01	Methyl ethyl ketone	6/30/2020	10	Y	n	u		10	3.3	ug/L
TB-13-062520	2018328-01	Methyl iodide	6/30/2020	2	Y	n	u	UJ	2.0	1.1	ug/L
TB-13-062520	2018328-01	Carbon disulfide	6/30/2020	1	Y	n	u		1.0	0.48	ug/L

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Analytical Method EPA-8270C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-16	2018328-08	1,4-Dioxane	7/7/2020	1	Y	n	u		1.0	0.16	ug/L

Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
Dup-7-2Q2020	2018328-09	Total Alkalinity as CaCO3	6/29/2020	120	Y	y	v		4.1	4.1	mg/L
Dup-7-2Q2020	2018328-09	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
Dup-7-2Q2020	2018328-09	Bicarbonate	6/29/2020	150	Y	y	v		5.0	5.0	mg/L
Dup-8-2Q2020	2018328-10	Total Alkalinity as CaCO3	6/29/2020	230	Y	y	v		4.1	4.1	mg/L
Dup-8-2Q2020	2018328-10	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
Dup-8-2Q2020	2018328-10	Bicarbonate	6/29/2020	280	Y	y	v		5.0	5.0	mg/L
MW-1	2018328-02	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-1	2018328-02	Bicarbonate	6/29/2020	280	Y	y	v		5.0	5.0	mg/L
MW-1	2018328-02	Total Alkalinity as CaCO3	6/29/2020	230	Y	y	v		4.1	4.1	mg/L
MW-15	2018328-07	Bicarbonate	6/29/2020	160	Y	y	v		5.0	5.0	mg/L
MW-15	2018328-07	Total Alkalinity as CaCO3	6/29/2020	130	Y	y	v		4.1	4.1	mg/L
MW-15	2018328-07	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-16	2018328-08	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-16	2018328-08	Total Alkalinity as CaCO3	6/29/2020	170	Y	y	v		4.1	4.1	mg/L
MW-16	2018328-08	Bicarbonate	6/29/2020	210	Y	y	v		5.0	5.0	mg/L
MW-6	2018328-03	Total Alkalinity as CaCO3	6/29/2020	4.1	Y	n	u		4.1	4.1	mg/L
MW-6	2018328-03	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-6	2018328-03	Bicarbonate	6/29/2020	5	Y	n	u		5.0	5.0	mg/L
MW-7	2018328-04	Bicarbonate	6/29/2020	210	Y	y	v		5.0	5.0	mg/L
MW-7	2018328-04	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-7	2018328-04	Total Alkalinity as CaCO3	6/29/2020	170	Y	y	v		4.1	4.1	mg/L

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Analytical Method SM-2320B

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Report	Detect	Lab Qual	Val Qual	RL	MDL	Units
MW-8	2018328-05	Total Alkalinity as CaCO3	6/29/2020	140	Y	y	v		4.1	4.1	mg/L
MW-8	2018328-05	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-8	2018328-05	Bicarbonate	6/29/2020	170	Y	y	v		5.0	5.0	mg/L
MW-9	2018328-06	Carbonate	6/29/2020	2.5	Y	n	u		2.5	2.5	mg/L
MW-9	2018328-06	Bicarbonate	6/29/2020	200	Y	y	v		5.0	5.0	mg/L
MW-9	2018328-06	Total Alkalinity as CaCO3	6/29/2020	160	Y	y	v		4.1	4.1	mg/L