



PWS_1120014_AC_20200929_Analysis Report
LCRA Environmental Laboratory Services
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October 8, 2020

MICHAEL RAWSON
PO BOX 1160
SULPHUR SPRINGS, TX 75483

RE: Final Analytical Report Q2038278

Attn: MICHAEL RAWSON

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 730-6022. We look forward to assisting you again.

Authorized for release by:

Bhanu Acharya
Account Manager
bhanu.acharya@lcra.org



Enclosures:



Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received
Q2038278001	2058282	DW	552.2 Haloacetic Acids by GC	9/29/2020 13:38	9/30/2020 10:20
Q2038278001	2058282	DW	E524.2 Volatiles by GC/MS	9/29/2020 13:38	9/30/2020 10:20
Q2038278002	2058283	DW	552.2 Haloacetic Acids by GC	9/29/2020 13:54	9/30/2020 10:20
Q2038278002	2058283	DW	E524.2 Volatiles by GC/MS	9/29/2020 13:54	9/30/2020 10:20

Report Definitions

- MRL - Minimum Reporting Limit**
- LOD - Limit of Detection**
- ML - Maximum Limit - Client Specified**
- MCL - Maximum Contaminant Level**
- MDL - Method Detection Limit**
- LOQ - Limit of Quantitation - Client Specified**
- DF - Dilution Factor**
- Qual - Qualifier**
- (S) - Surrogate Spike**
- QC Qual - red font indicates Result Value outside acceptable range**
- B- Analyte detected in method blank**
- S - Spike recovery outside limit**
- R - RPD outside duplicate precision limit**
- J - Analyte detected below quantitation limit**
- RPD - Relative Percent Difference**
- SL - Spike Recovery Low**
- SH - Spike Recovery High**



Project Summary

Sample Analysis Comments

Lab ID: Q2038278001

Sample ID: 2058282

- Not Accredited - Bromochloroacetic Acid
- Not Accredited - Bromodichloromethane
- Not Accredited - Bromoform
- Not Accredited - Chloroform
- Not Accredited - Dibromoacetic Acid
- Not Accredited - Dibromochloromethane
- Not Accredited - Dichloroacetic Acid
- Not Accredited - Monobromoacetic Acid
- Not Accredited - Monochloroacetic Acid
- Not Accredited - Trichloroacetic acid

Lab ID: Q2038278002

Sample ID: 2058283

- Analyte Detected Above Maximum Contaminant Level - Total Trihalomethanes
- Not Accredited - Bromochloroacetic Acid
- Not Accredited - Bromodichloromethane
- Not Accredited - Bromoform
- Not Accredited - Chloroform
- Not Accredited - Dibromoacetic Acid
- Not Accredited - Dibromochloromethane
- Not Accredited - Dichloroacetic Acid
- Not Accredited - Monobromoacetic Acid
- Not Accredited - Monochloroacetic Acid
- Not Accredited - Trichloroacetic acid



Analytical Results

Lab ID: Q2038278001	Date Received: 9/30/2020 10:20	Matrix: Drinking Water
Sample ID: 2058282	Date Collected: 9/29/2020 13:38	Sample Type: SAMPLE
Project ID: DRINKING WATER PROGRAM	Location: 145 CR 4701, SULPHUR SPRINGS	
Facility: DS01	Client ID: TX1120014	
Sample Point: DBP2-01		

Parameter	Results	Units	MRL	LOD	MCL	DF	Prepared	By	Analyzed	By	Qual
HALOACETIC ACIDS (552.2 Haloacetic Acids by GC)											
Bromochloroacetic Acid	3.00	ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:10	MF	*
Dibromoacetic Acid	1.00	ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:10	MF	*
Dichloroacetic Acid	11.0	ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:10	MF	*
Monobromoacetic Acid	1.00	ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:10	MF	*
Monochloroacetic Acid	2.00	ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:10	MF	*
Total Regulated HAA	22.0	ug/L	1.00	0.500	60		10/06/20 14:38	KGL	10/06/20 23:10	MF	*
Trichloroacetic acid	7.00	ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:10	MF	*

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
2,3-Dibromopropionic acid (S)	%	98	70 - 130

Volatiles (E524.2 Volatiles by GC/MS)

Parameter	Results	Units	MRL	LOD	MCL	DF	Prepared	By	Analyzed	By	Qual
Chloroform	18.5	ug/L	1.00	0.500		1			10/02/20 19:53	MH	*
Bromodichloromethane	8.41	ug/L	1.00	0.500		1			10/02/20 19:53	MH	*
Dibromochloromethane	2.09	ug/L	1.00	0.500		1			10/02/20 19:53	MH	*
Bromoform	<1.00	ug/L	1.00	0.500		1			10/02/20 19:53	MH	*
Total Trihalomethanes	29.0	ug/L	1.00	0.500	80				10/02/20 19:53	MH	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
1,2-Dichlorobenzene-d4 (S)	%	101	70 - 130
4-Bromofluorobenzene (S)	%	93.7	70 - 130



Analytical Results (cont.)

Lab ID: Q2038278002	Date Received: 9/30/2020 10:20	Matrix: Drinking Water
Sample ID: 2058283	Date Collected: 9/29/2020 13:54	Sample Type: SAMPLE
Project ID: DRINKING WATER PROGRAM	Location: 6839 HWY 11 W, SULPHUR SPRINGS	
Facility: DS01	Client ID: TX1120014	
Sample Point: DBP2-02		

Parameter	Results Units	MRL	LOD	MCL	DF	Prepared	By	Analyzed	By	Qual
HALOACETIC ACIDS (552.2 Haloacetic Acids by GC)										
Bromochloroacetic Acid	3.00 ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:26	MF	*
Dibromoacetic Acid	7.00 ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:26	MF	*
Dichloroacetic Acid	1.00 ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:26	MF	*
Monobromoacetic Acid	2.00 ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:26	MF	*
Monochloroacetic Acid	<1.00 ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:26	MF	*
Total Regulated HAA	10.0 ug/L	1.00	0.500	60		10/06/20 14:38	KGL	10/06/20 23:26	MF	
Trichloroacetic acid	<1.00 ug/L	1.00	0.500		1	10/06/20 14:38	KGL	10/06/20 23:26	MF	*

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
2,3-Dibromopropionic acid (S)	%	84	70 - 130

Volatiles (E524.2 Volatiles by GC/MS)

Parameter	Results Units	MRL	LOD	MCL	DF	Prepared	By	Analyzed	By	Qual
Chloroform	2.00 ug/L	1.00	0.500		1			10/02/20 20:18	MH	*
Bromodichloromethane	7.63 ug/L	1.00	0.500		1			10/02/20 20:18	MH	*
Dibromochloromethane	29.4 ug/L	1.00	0.500		1			10/02/20 20:18	MH	*
Bromoform	45.1 ug/L	1.00	0.500		1			10/02/20 20:18	MH	*
Total Trihalomethanes	84.1 ug/L	1.00	0.500	80				10/02/20 20:18	MH	*

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
1,2-Dichlorobenzene-d4 (S)	%	101	70 - 130
4-Bromofluorobenzene (S)	%	97	70 - 130



Quality Control

Preparation Batch: OVOL / 4875

Analysis Method: E524.2 Volatiles by GC/MS

Preparation Method: E524.2 Volatiles by GC/MS

Associated Lab IDs: Q2038278001, Q2038278002

Laboratory Fortified Blank (1517568); Lab Fortified Blank Duplicate (1517569)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Dup Result	% Dup Recovery	RPD	RPD Limit %	Qual
Chloroform	ug/L	50	48.3	96.5	70 - 130	47.2	94.3	2.3	30	
Bromodichloromethane	ug/L	50	45.7	91.3	70 - 130	45.2	90.3	1.1	30	
Dibromochloromethane	ug/L	50	45.9	91.8	70 - 130	45.5	91	.875	30	
Bromoform	ug/L	50	48.2	96.5	70 - 130	47.4	94.9	1.67	30	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
1,2-Dichlorobenzene-d4 (S)	%	102	70 - 130	101
4-Bromofluorobenzene (S)	%	100	70 - 130	98.3

Laboratory Reagent Blank (1517570)

Parameter	Results	Units	MRL	LOD	Qualifier
Chloroform	<1.00	ug/L	1.00	0.500	
Bromodichloromethane	<1.00	ug/L	1.00	0.500	
Dibromochloromethane	<1.00	ug/L	1.00	0.500	
Bromoform	<1.00	ug/L	1.00	0.500	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
1,2-Dichlorobenzene-d4 (S)	%	99.2	70 - 130
4-Bromofluorobenzene (S)	%	90.7	70 - 130

Method Reporting Limit Check (1517571)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Qual
Chloroform	ug/L	1	.96	96	50 - 150	
Bromodichloromethane	ug/L	1	.82	82	50 - 150	
Dibromochloromethane	ug/L	1	.81	81	50 - 150	
Bromoform	ug/L	1	.83	83	50 - 150	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
1,2-Dichlorobenzene-d4 (S)	%	98.5	50 - 150	
4-Bromofluorobenzene (S)	%	94.3	50 - 150	

Laboratory Fortified Blank (1517573); Lab Fortified Blank Duplicate (1517574)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Dup Result	% Dup Recovery	RPD	RPD Limit %	Qual
Chloroform	ug/L	50	45.8	91.6	70 - 130	47	93.9	2.59	30	
Bromodichloromethane	ug/L	50	44.5	89	70 - 130	44.6	89.2	.224	30	
Dibromochloromethane	ug/L	50	45.2	90.5	70 - 130	44.9	89.7	.666	30	
Bromoform	ug/L	50	46.2	92.4	70 - 130	46.1	92.1	.217	30	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
1,2-Dichlorobenzene-d4 (S)	%	99.1	70 - 130	100
4-Bromofluorobenzene (S)	%	99.8	70 - 130	98



Quality Control (cont.)

Preparation Batch: OVOL / 4875	Analysis Method: E524.2 Volatiles by GC/MS
Preparation Method: E524.2 Volatiles by GC/MS	
Associated Lab IDs: Q2038278001, Q2038278002	

Laboratory Reagent Blank (1517575)

Parameter	Results	Units	MRL	LOD	Qualifier
Chloroform	<1.00	ug/L	1.00	0.500	
Bromodichloromethane	<1.00	ug/L	1.00	0.500	
Dibromochloromethane	<1.00	ug/L	1.00	0.500	
Bromoform	<1.00	ug/L	1.00	0.500	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
1,2-Dichlorobenzene-d4 (S)	%	96.2	70 - 130
4-Bromofluorobenzene (S)	%	93.8	70 - 130

Quality Control (cont.)

Preparation Batch: OEXT / 8196

Analysis Method: 552.2 Haloacetic Acids by GC

Preparation Method: 552.2 Haloacetic Acids by GC

Associated Lab IDs: Q2038278001, Q2038278002

Laboratory Fortified Blank (1518207); Lab Fortified Blank Duplicate (1518208)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Dup Result	% Dup Recovery	RPD	RPD Limit %	Qual
Monochloroacetic Acid	ug/L	50	48	96	70 - 130	47	94	2.11	30	
Monobromoacetic Acid	ug/L	50	45	90	70 - 130	44	88	2.25	30	
Dichloroacetic Acid	ug/L	50	44	88	70 - 130	43	86	2.3	30	
Trichloroacetic acid	ug/L	50	41	82	70 - 130	41	82	0	30	
Bromochloroacetic Acid	ug/L	50	42	84	70 - 130	40	80	4.88	30	
Dibromoacetic Acid	ug/L	50	41	82	70 - 130	38	76	7.59	30	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
2,3-Dibromopropionic acid (S)	%	80	70 - 130	76

Laboratory Reagent Blank (1518210)

Parameter	Results	Units	MRL	LOD	Qualifier
Monochloroacetic Acid	<1.00	ug/L	1.00	0.500	
Monobromoacetic Acid	<1.00	ug/L	1.00	0.500	
Dichloroacetic Acid	<1.00	ug/L	1.00	0.500	
Trichloroacetic acid	<1.00	ug/L	1.00	0.500	
Bromochloroacetic Acid	<1.00	ug/L	1.00	0.500	
Dibromoacetic Acid	<1.00	ug/L	1.00	0.500	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
2,3-Dibromopropionic acid (S)	%	80	70 - 130

Method Reporting Limit Check (1518213)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Qual
Monochloroacetic Acid	ug/L	1	1.5	150	50 - 150	
Monobromoacetic Acid	ug/L	1	1.2	120	50 - 150	
Dichloroacetic Acid	ug/L	1	1.2	120	50 - 150	
Trichloroacetic acid	ug/L	1	.9	90	50 - 150	
Bromochloroacetic Acid	ug/L	1	1.2	120	50 - 150	
Dibromoacetic Acid	ug/L	1	.9	90	50 - 150	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
2,3-Dibromopropionic acid (S)	%	94	50 - 150	

Laboratory Fortified Matrix (1518214) Original: Q2038275006

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Qual
Monochloroacetic Acid	ug/L	100	92	90	70 - 130	
Monobromoacetic Acid	ug/L	100	93	93	70 - 130	
Dichloroacetic Acid	ug/L	100	109	92	70 - 130	
Trichloroacetic acid	ug/L	100	97	93	70 - 130	
Bromochloroacetic Acid	ug/L	100	91	88	70 - 130	
Dibromoacetic Acid	ug/L	100	87	87	70 - 130	



Quality Control (cont.)

Preparation Batch: OEXT / 8196	Analysis Method: 552.2 Haloacetic Acids by GC
Preparation Method: 552.2 Haloacetic Acids by GC	
Associated Lab IDs: Q2038278001, Q2038278002	

(continued)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Qual
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Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery	Control Limits %
2,3-Dibromopropionic acid (S)	%	86	70 - 130		70 - 130

Laboratory Fortified Blank (1518215); Lab Fortified Blank Duplicate (1518216)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Dup Result	% Dup Recovery	RPD	RPD Limit %	Qual
Monochloroacetic Acid	ug/L	50	47	94	70 - 130	48	96	2.11	30	
Monobromoacetic Acid	ug/L	50	44	88	70 - 130	45	90	2.25	30	
Dichloroacetic Acid	ug/L	50	43	86	70 - 130	44	88	2.3	30	
Trichloroacetic acid	ug/L	50	41	82	70 - 130	42	84	2.41	30	
Bromochloroacetic Acid	ug/L	50	40	80	70 - 130	41	82	2.47	30	
Dibromoacetic Acid	ug/L	50	38	76	70 - 130	40	80	5.13	30	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
2,3-Dibromopropionic acid (S)	%	76	70 - 130	78

Laboratory Fortified Matrix (1518217) Original: Q2038306001

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Qual
Monochloroacetic Acid	ug/L	100	95	95	70 - 130	
Monobromoacetic Acid	ug/L	100	91	91	70 - 130	
Dichloroacetic Acid	ug/L	100	90	90	70 - 130	
Trichloroacetic acid	ug/L	100	90	90	70 - 130	
Bromochloroacetic Acid	ug/L	100	85	85	70 - 130	
Dibromoacetic Acid	ug/L	100	84	84	70 - 130	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery	Control Limits %
2,3-Dibromopropionic acid (S)	%	78	70 - 130		70 - 130



Quality Control Cross Reference

ORG/9619 - 552.2 Haloacetic Acids by GC

Lab ID	Sample ID	Prep Batch	Prep Method
Q2038278001	2058282	OEXT/8196	552.2 Haloacetic Acids by GC
Q2038278002	2058283	OEXT/8196	552.2 Haloacetic Acids by GC

OVOL/4875 - E524.2 Volatiles by GC/MS

Lab ID	Sample ID	Prep Batch	Prep Method
Q2038278001	2058282		
Q2038278002	2058283		