



PWS_1120014_AC_20210308_Analysis Report
LCRA Environmental Laboratory Services
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March 17, 2021

MICHAEL RAWSON
PO BOX 1160
SULPHUR SPRINGS, TX 75483

RE: Final Analytical Report Q2105984

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
Q2105984001	2147289	DW	552.2 Haloacetic Acids by GC	3/8/2021 10:23	3/9/2021 07:11
Q2105984001	2147289	DW	E524.2 Volatiles by GC/MS	3/8/2021 10:23	3/9/2021 07:11
Q2105984002	2147290	DW	552.2 Haloacetic Acids by GC	3/8/2021 10:43	3/9/2021 07:11
Q2105984002	2147290	DW	E524.2 Volatiles by GC/MS	3/8/2021 10:43	3/9/2021 07:11

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: Q2105984001 **Sample ID:** 2147289

- 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: Q2105984002 **Sample ID:** 2147290

- 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: Q2105984001	Date Received: 3/9/2021 07:11	Matrix: Drinking Water
Sample ID: 2147289	Date Collected: 3/8/2021 10:23	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	2.00 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 05:46	MF	*
Dibromoacetic Acid	<1.00 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 05:46	MF	*
Dichloroacetic Acid	7.90 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 05:46	MF	*
Monobromoacetic Acid	<1.00 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 05:46	MF	*
Monochloroacetic Acid	1.30 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 05:46	MF	*
Total Regulated HAA	14.3 ug/L	1.00	0.500	60		03/15/21 15:31	MFM	03/17/21 05:46	MF	
Trichloroacetic acid	5.10 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 05:46	MF	*

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
2,3-Dibromopropionic acid (S)	%	97.4	70 - 130

Volatiles (E524.2 Volatiles by GC/MS)

Parameter	Results Units	MRL	LOD	MCL	DF	Prepared	By	Analyzed	By	Qual
Chloroform	14.2 ug/L	1.00	0.500		1			03/11/21 20:17	MH	*
Bromodichloromethane	6.53 ug/L	1.00	0.500		1			03/11/21 20:17	MH	*
Dibromochloromethane	1.52 ug/L	1.00	0.500		1			03/11/21 20:17	MH	*
Bromoform	<1.00 ug/L	1.00	0.500		1			03/11/21 20:17	MH	*
Total Trihalomethanes	22.2 ug/L	1.00	0.500	80				03/11/21 20:17	MH	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
1,2-Dichlorobenzene-d4 (S)	%	102	70 - 130
4-Bromofluorobenzene (S)	%	90.6	70 - 130



Analytical Results (cont.)

Lab ID: Q2105984002	Date Received: 3/9/2021 07:11	Matrix: Drinking Water
Sample ID: 2147290	Date Collected: 3/8/2021 10:43	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	2.50 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 06:02	MF	*
Dibromoacetic Acid	5.30 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 06:02	MF	*
Dichloroacetic Acid	1.30 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 06:02	MF	*
Monobromoacetic Acid	1.40 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 06:02	MF	*
Monochloroacetic Acid	<1.00 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 06:02	MF	*
Total Regulated HAA	8.00 ug/L	1.00	0.500	60		03/15/21 15:31	MFM	03/17/21 06:02	MF	
Trichloroacetic acid	<1.00 ug/L	1.00	0.500		1	03/15/21 15:31	MFM	03/17/21 06:02	MF	*

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
2,3-Dibromopropionic acid (S)	%	99.2	70 - 130

Volatiles (E524.2 Volatiles by GC/MS)

Parameter	Results Units	MRL	LOD	MCL	DF	Prepared	By	Analyzed	By	Qual
Chloroform	2.01 ug/L	1.00	0.500		1			03/11/21 20:41	MH	*
Bromodichloromethane	7.77 ug/L	1.00	0.500		1			03/11/21 20:41	MH	*
Dibromochloromethane	26.5 ug/L	1.00	0.500		1			03/11/21 20:41	MH	*
Bromoform	37.9 ug/L	1.00	0.500		1			03/11/21 20:41	MH	*
Total Trihalomethanes	74.2 ug/L	1.00	0.500	80				03/11/21 20:41	MH	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %
1,2-Dichlorobenzene-d4 (S)	%	101	70 - 130
4-Bromofluorobenzene (S)	%	93.4	70 - 130



Quality Control

Preparation Batch: OVOL / 5112 **Analysis Method:** E524.2 Volatiles by GC/MS
Preparation Method: E524.2 Volatiles by GC/MS
Associated Lab IDs: Q2105984001, Q2105984002

Laboratory Fortified Blank (1580460); Lab Fortified Blank Duplicate (1580461)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Dup Result	% Dup Recovery	RPD	RPD Limit %	Qual
Chloroform	ug/L	50	43.8	87.6	70 - 130	45.3	90.7	3.37	30	
Bromodichloromethane	ug/L	50	47.6	95.1	70 - 130	48.8	97.6	2.49	30	
Dibromochloromethane	ug/L	50	50	99.9	70 - 130	50.4	101	.797	30	
Bromoform	ug/L	50	51.1	102	70 - 130	52.8	106	3.27	30	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
1,2-Dichlorobenzene-d4 (S)	%	103	70 - 130	103
4-Bromofluorobenzene (S)	%	97	70 - 130	94

Laboratory Reagent Blank (1580462)

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)	%	107	70 - 130
4-Bromofluorobenzene (S)	%	96.8	70 - 130

Method Reporting Limit Check (1580463)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Qual
Chloroform	ug/L	1	1.25	125	50 - 150	
Bromodichloromethane	ug/L	1	1.29	129	50 - 150	
Dibromochloromethane	ug/L	1	1.28	128	50 - 150	
Bromoform	ug/L	1	1.42	142	50 - 150	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
1,2-Dichlorobenzene-d4 (S)	%	106	50 - 150	
4-Bromofluorobenzene (S)	%	91.1	50 - 150	

Laboratory Fortified Blank (1580465); Lab Fortified Blank Duplicate (1580466)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Dup Result	% Dup Recovery	RPD	RPD Limit %	Qual
Chloroform	ug/L	50	45.3	90.7	70 - 130	45.2	90.3	.221	30	
Bromodichloromethane	ug/L	50	45.7	91.5	70 - 130	45.5	90.9	.439	30	
Dibromochloromethane	ug/L	50	46.5	93	70 - 130	45.9	91.7	1.3	30	
Bromoform	ug/L	50	46.9	93.8	70 - 130	46.8	93.6	.213	30	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
1,2-Dichlorobenzene-d4 (S)	%	98.7	70 - 130	101
4-Bromofluorobenzene (S)	%	91.4	70 - 130	93.2



Quality Control (cont.)

Preparation Batch: OVOL / 5112	Analysis Method: E524.2 Volatiles by GC/MS
Preparation Method: E524.2 Volatiles by GC/MS	
Associated Lab IDs: Q2105984001, Q2105984002	

Laboratory Reagent Blank (1580467)

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)	%	99.3	70 - 130
4-Bromofluorobenzene (S)	%	88	70 - 130



Quality Control (cont.)

Preparation Batch: OEXT / 8474	Analysis Method: 552.2 Haloacetic Acids by GC
Preparation Method: 552.2 Haloacetic Acids by GC	
Associated Lab IDs: Q2105984001, Q2105984002	

Laboratory Fortified Blank (1580800); Lab Fortified Blank Duplicate (1580801)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Dup Result	% Dup Recovery	RPD	RPD Limit %	Qual
Monochloroacetic Acid	ug/L	50	51.3	103	70 - 130	51.1	102	.391	30	
Monobromoacetic Acid	ug/L	50	46.3	92.6	70 - 130	46.5	93	.431	30	
Dichloroacetic Acid	ug/L	50	49	98	70 - 130	48.9	97.8	.204	30	
Trichloroacetic acid	ug/L	50	44.8	89.6	70 - 130	46.1	92.2	2.86	30	
Bromochloroacetic Acid	ug/L	50	43.5	87	70 - 130	44.1	88.2	1.37	30	
Dibromoacetic Acid	ug/L	50	42.9	85.8	70 - 130	43.7	87.4	1.85	30	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
2,3-Dibromopropionic acid (S)	%	86.2	70 - 130	88

Laboratory Fortified Matrix (1580802) Original: Q2105981002

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Qual
Monochloroacetic Acid	ug/L	100	92.4	90.4	70 - 130	
Monobromoacetic Acid	ug/L	100	95.2	95.2	70 - 130	
Dichloroacetic Acid	ug/L	100	108	99.3	70 - 130	
Trichloroacetic acid	ug/L	100	108	103	70 - 130	
Bromochloroacetic Acid	ug/L	100	96.6	94.4	70 - 130	
Dibromoacetic Acid	ug/L	100	93.4	93.4	70 - 130	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery	Control Limits %
2,3-Dibromopropionic acid (S)	%	99	70 - 130		70 - 130

Laboratory Fortified Blank (1580803); Lab Fortified Blank Duplicate (1580804)

Parameter	Units	Spiked Amount	Spike Result	% Spike Recovery	Control Limits %	Qual
Monochloroacetic Acid	ug/L	50	51.1	102	70 - 130	
Monobromoacetic Acid	ug/L	50	46.5	93	70 - 130	
Dichloroacetic Acid	ug/L	50	48.9	97.8	70 - 130	
Trichloroacetic acid	ug/L	50	46.1	92.2	70 - 130	
Bromochloroacetic Acid	ug/L	50	44.1	88.2	70 - 130	
Dibromoacetic Acid	ug/L	50	43.7	87.4	70 - 130	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
2,3-Dibromopropionic acid (S)	%	88	70 - 130	

Laboratory Reagent Blank (1580805)

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	



Quality Control (cont.)

Preparation Batch: OEXT / 8474	Analysis Method: 552.2 Haloacetic Acids by GC
Preparation Method: 552.2 Haloacetic Acids by GC	
Associated Lab IDs: Q2105984001, Q2105984002	

(continued)

Parameter	Results	Units	MRL	LOD	Qualifier
Surrogate(s)					
Parameter	Units	% Spike Recovery	Control Limits %		
2,3-Dibromopropionic acid (S)	%	76	70 - 130		

Method Reporting Limit Check (1580806)

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	.8	80	50 - 150	

Surrogate(s)

Parameter	Units	% Spike Recovery	Control Limits %	% Dup Recovery
2,3-Dibromopropionic acid (S)	%	78.8	50 - 150	



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Quality Control Cross Reference

ORG/9968 - 552.2 Haloacetic Acids by GC

Lab ID	Sample ID	Prep Batch	Prep Method
Q2105984001	2147289	OEXT/8474	552.2 Haloacetic Acids by GC
Q2105984002	2147290	OEXT/8474	552.2 Haloacetic Acids by GC

OVOL/5112 - E524.2 Volatiles by GC/MS

Lab ID	Sample ID	Prep Batch	Prep Method
Q2105984001	2147289		
Q2105984002	2147290		