



PWS\_1120014\_AC\_20210824\_Analysis Report  
LCRA Environmental Laboratory Services  
3505 Montopolis Drive  
Austin, TX 78744  
Phone (512)730-6022  
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September 11, 2021

MICHAEL RAWSON  
PO BOX 1160  
SULPHUR SPRINGS, TX 75483

RE: Final Analytical Report Q2122962

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 or [environmental.lab@lcra.org](mailto:environmental.lab@lcra.org). We look forward to assisting you again.

Authorized for release by:

Bhanu Acharya  
Account Manager  
[bhanu.acharya@lcra.org](mailto:bhanu.acharya@lcra.org)



Enclosures:

**Workorder:** Q2122962  
**Workorder Description:** TX1120014\_PWS\_08\_25\_2021  
**Client:** GAFFORD CHAPEL WSC  
**Profile:** DRINKING WATER PROGRAM  
**Sampled By:** CHRISTINA NIXON

**Report To:** MICHAEL RAWSON  
PO BOX 1160  
SULPHUR SPRINGS, TX  
75483

## Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported
Q2122962001	2156012	DW	552.2 Haloacetic Acids by GC	08/24/2021 09:28	08/25/2021 09:28	7
Q2122962001	2156012	DW	E524.2 Volatiles by GC/MS	08/24/2021 09:28	08/25/2021 09:28	5
Q2122962002	2156013	DW	552.2 Haloacetic Acids by GC	08/24/2021 09:45	08/25/2021 09:28	7
Q2122962002	2156013	DW	E524.2 Volatiles by GC/MS	08/24/2021 09:45	08/25/2021 09:28	5

## Report Definitions

**MRL - Minimum Reporting Limit**  
**LOD - Limit of Detection**  
**ML - Maximum Limit - Client Specified**  
**MCL - Maximum Contaminant Level**  
**LOQ - Limit of Quantitation - Client Specified**  
**DF - Dilution Factor**  
**(S) - Surrogate Spike**  
**MDL - Method Detection Limit**  
**RPD - Relative Percent Difference**

## Qualifier Definitions

**J - Analyte detected below quantitation limit**  
**R - RPD outside duplicate precision limit**  
**S - Spike recovery outside limit**  
**B - Analyte detected in method blank**  
**N - Not Accredited**  
**M - Analyte Detected Above Maximum Contaminant Level**  
**SL - Spike Recovery Low**  
**SH - Spike Recovery High**  
**H - Analyzed Past Hold Time**  
**CR - Confirmed Result**  
**CH - Result confirmed by historical data**



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## Workorder Summary

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## Quality Control Results

**QC Batch:** ORG/10336  
**Preparation Method:** 552.2 Haloacetic Acids by GC  
**Associated Lab IDs:** Q2122962001, Q2122962002

**Analysis Method:** 552.2 Haloacetic Acids by GC

### Laboratory Fortified Blank (1650664); Lab Fortified Blank Duplicate (1650665)

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Monochloroacetic Acid	ug/L	50.	48.8	97.6	70 - 130	46.8	93.6	4.18	30	
Monobromoacetic Acid	ug/L	50.	47.8	95.6	70 - 130	46.6	93.2	2.54	30	
Dichloroacetic Acid	ug/L	50.	49.	98.	70 - 130	48.3	96.6	1.44	30	
Trichloroacetic acid	ug/L	50.	50.1	100.	70 - 130	50.5	101.0	0.795	30	
Bromochloroacetic Acid	ug/L	50.	49.	98.	70 - 130	49.4	98.8	0.813	30	
Dibromoacetic Acid	ug/L	50.	49.6	99.2	70 - 130	50.3	101.0	1.4	30	

### Laboratory Fortified Matrix (1650669); Original: Q2122975004

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Monochloroacetic Acid	ug/L	100.	95.9	95.9	70 - 130	
Monobromoacetic Acid	ug/L	100.	98.	98.	70 - 130	
Dichloroacetic Acid	ug/L	100.	102.	102.	70 - 130	
Trichloroacetic acid	ug/L	100.	120.	120.	70 - 130	
Bromochloroacetic Acid	ug/L	100.	109.	107.	70 - 130	
Dibromoacetic Acid	ug/L	100.	118.	116.	70 - 130	

### Surrogates

Parameter	Units	Spike Recovery%	Control Limits %	Qualifier
2,3-Dibromopropionic acid (S)	%	128	70 - 130	

### Laboratory Fortified Matrix (1650666); Original: Q2122961005

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Monochloroacetic Acid	ug/L	100.	98.4	97.	70 - 130	
Monobromoacetic Acid	ug/L	100.	99.1	99.1	70 - 130	
Dichloroacetic Acid	ug/L	100.	120.	104.	70 - 130	
Trichloroacetic acid	ug/L	100.	140.	128.	70 - 130	
Bromochloroacetic Acid	ug/L	100.	115.	110.	70 - 130	
Dibromoacetic Acid	ug/L	100.	119.	119.	70 - 130	

### Surrogates

Parameter	Units	Spike Recovery%	Control Limits %	Qualifier
2,3-Dibromopropionic acid (S)	%	136	70 - 130	S

### Laboratory Fortified Blank (1650667); Lab Fortified Blank Duplicate (1650668)

## Quality Control Results

**QC Batch:** ORG/10336      **Analysis Method:** 552.2 Haloacetic Acids by GC  
**Preparation Method:** 552.2 Haloacetic Acids by GC  
**Associated Lab IDs:** Q2122962001, Q2122962002

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Monochloroacetic Acid	ug/L	50.	46.8	93.6	70 - 130	47.1	94.2	0.639	30	
Monobromoacetic Acid	ug/L	50.	46.6	93.2	70 - 130	46.9	93.8	0.642	30	
Dichloroacetic Acid	ug/L	50.	48.3	96.6	70 - 130	48.1	96.2	0.415	30	
Trichloroacetic acid	ug/L	50.	50.5	101.	70 - 130	49.6	99.2	1.8	30	
Bromochloroacetic Acid	ug/L	50.	49.4	98.8	70 - 130	49.3	98.6	0.203	30	
Dibromoacetic Acid	ug/L	50.	50.3	101.	70 - 130	50.1	100.0	0.398	30	

## Quality Control Results

**QC Batch:** OVOL/5378  
**Preparation Method:** E524.2 Volatiles by GC/MS  
**Associated Lab IDs:** Q2122962001, Q2122962002

**Analysis Method:** E524.2 Volatiles by GC/MS

### Method Reporting Limit Check (1650180)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Chloroform	ug/L	1.	1.24	124.	50 - 150	
Bromodichloromethane	ug/L	1.	0.92	92.	50 - 150	
Dibromochloromethane	ug/L	1.	0.92	92.	50 - 150	
Bromoform	ug/L	1.	0.94	94.	50 - 150	

### Surrogates

Parameter	Units	Spike Recovery%	Control Limits %	Qualifier
1,2-Dichlorobenzene-d4 (S)	%	92.20	50 - 150	
4-Bromofluorobenzene (S)	%	82.10	50 - 150	

### Laboratory Fortified Blank (1650182); Lab Fortified Blank Duplicate (1650183)

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Chloroform	ug/L	50.	52.	104.	70 - 130	54.1	108.0	3.96	30	
Bromodichloromethane	ug/L	50.	43.8	87.6	70 - 130	47.8	95.5	8.73	30	
Dibromochloromethane	ug/L	50.	45.2	90.4	70 - 130	48.9	97.7	7.86	30	
Bromoform	ug/L	50.	44.7	89.4	70 - 130	48.6	97.2	8.36	30	

### Laboratory Reagent Blank(1650184)

Parameter	Units	Results	MRL	LOD	Qualifier
Chloroform	ug/L	<1.00	1.0	0.5	
Bromodichloromethane	ug/L	<1.00	1.0	0.5	
Dibromochloromethane	ug/L	<1.00	1.0	0.5	
Bromoform	ug/L	<1.00	1.0	0.5	

### Surrogates

Parameter	Units	Spike Recovery%	Control Limits %	Qualifier
1,2-Dichlorobenzene-d4 (S)	%	83.10	70 - 130	
4-Bromofluorobenzene (S)	%	70.20	70 - 130	

## QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
<b><i>ORG/10336 - 552.2 Haloacetic Acids by GC</i></b>			
Q2122962001	2156012	OEXT/8744	552.2 Haloacetic Acids by GC
Q2122962002	2156013	OEXT/8744	552.2 Haloacetic Acids by GC
<b><i>OVOL/5378 - E524.2 Volatiles by GC/MS</i></b>			
Q2122962001	2156012		
Q2122962002	2156013		

End of Report



