

City of Hot Springs ATTN: Mr. Harold Mauldin 320 Davidson Drive Hot Springs, AR 71901

This report contains the analytical results and supporting information for samples received on June 13, 2022. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Chief Operating Officer or a qualified designee.

by LP

✓ Jøhn Overbey

Chief Operating Officer

This document has been distributed to the following:

PDF cc: City of Hot Springs

ATTN: Mr. Dennis Brunson dbrunson@cityhs.net

City of Hot Springs

ATTN: Mr. Harold Mauldin

wwlab@cityhs.net

City of Hot Springs ATTN: Ms. Mandy King mking@cityhs.net



City of Hot Springs 320 Davidson Drive Hot Springs, AR 71901

SAMPLE INFORMATION

Project Description:

Three (3) water sample(s) received on June 13, 2022 Manhole 1750 P.O. No. 2022-247

Receipt Details:

A Chain of Custody was provided. The samples were delivered in two (2) ice chests.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

Laboratory ID	Client Sample ID	Sampled Date/Time Notes
266393-1	Site 1	11-Jun-2022 1211
266393-2	Site 2	11-Jun-2022 1215
266393-3	Site 3	11-Jun-2022 1228

Qualifiers:

D Result is from a secondary dilution factor

References:

"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).

[&]quot;Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.

[&]quot;Standard Methods for the Examination of Water and Wastewaters", (SM).

[&]quot;American Society for Testing and Materials" (ASTM).

[&]quot;Association of Analytical Chemists" (AOAC).



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ANALYTICAL RESULTS

AIC No. 266393-1

Sample Identification: Site 1 11-Jun-2022 1211

Analyte		Result	RL	Units	Qualifier
Total Kjeldahl Nitrogen EPA 351.2	Prep: 14-Jun-2022 1354 by 330	0.71 Analyzed: 16-Jun	0.5 -2022 1055 by 352	mg/l Batch: W79869	D Dil: 2
Chlorophyll A SM 10200 H 2011		< 0.0050 Analyzed: 13-Jun	0.0050 -2022 1021 by 45	mg/l Batch: W79855	
Total Dissolved Solids SM 2540 C 2015	Prep: 13-Jun-2022 1340 by 100	37 Analyzed: 15-Jun	25 -2022 1158 by 100	mg/l Batch: W79860	
Chloride EPA 300.0	Prep: 15-Jun-2022 0831 by 338	2.0 Analyzed: 15-Jun	0.2 -2022 1938 by 338	mg/l Batch: C25381	
Nitrate + Nitrite as N EPA 300.0	Prep: 15-Jun-2022 0831 by 338	< 0.5 Analyzed: 15-Jun	0.5 -2022 1917 by 338	mg/l Batch: C25381	D Dil: 10

AIC No. 266393-2

Sample Identification: Site 2 11-Jun-2022 1215

Analyte		Result	RL	Units	Qualifier
Total Kjeldahl Nitrogen EPA 351.2	Prep: 14-Jun-2022 1354 by 330	0.71 Analyzed: 16-Jun	0.5 -2022 1057 by 352	mg/l Batch: W79869	D Dil: 2
Chlorophyll A SM 10200 H 2011		< 0.0050 Analyzed: 13-Jun	0.0050 -2022 1021 by 45	mg/l Batch: W79855	
Total Dissolved Solids SM 2540 C 2015	Prep: 13-Jun-2022 1340 by 100	38 Analyzed: 15-Jun	25 -2022 1158 by 100	mg/l Batch: W79860	
Chloride EPA 300.0	Prep: 15-Jun-2022 0831 by 338	1.9 Analyzed: 15-Jun	0.2 -2022 2101 by 338	mg/l Batch: C25381	
Nitrate + Nitrite as N EPA 300.0	Prep: 15-Jun-2022 0831 by 338	< 0.5 Analyzed: 15-Jun	0.5 -2022 2040 by 338	mg/l Batch: C25381	D Dil: 10

AIC No. 266393-3

Sample Identification: Site 3 11-Jun-2022 1228

Analyte		Result	RL	Units	Qualifier
Total Kjeldahl Nitrogen EPA 351.2	Prep: 14-Jun-2022 1354 by 330	0.76 Analyzed: 16-Jun-	0.5 2022 1059 by 352	mg/l Batch: W79869	D Dil: 2
Chlorophyll A SM 10200 H 2011		< 0.0050 Analyzed: 13-Jun-	0.0050 2022 1021 by 45	mg/l Batch: W79855	
Total Dissolved Solids SM 2540 C 2015	Prep: 13-Jun-2022 1340 by 100	34 Analyzed: 15-Jun-	25 2022 1158 by 100	mg/l Batch: W79860	
Chloride EPA 300.0	Prep: 15-Jun-2022 0831 by 338	2.0 Analyzed: 15-Jun-	0.2 2022 2143 by 338	mg/l Batch: C25381	
Nitrate + Nitrite as N EPA 300.0	Prep: 15-Jun-2022 0831 by 338	< 0.5 Analyzed: 15-Jun-	0.5 2022 2122 by 338	mg/l Batch: C25381	D Dil: 10



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DUPLICATE RESULTS

					RPD				
Analyte		AIC No.	Result	RPD	Limit	Preparation Date	Analysis Date	Dil	Qual
Chlorophyll A		266393-1	< 0.0050 mg/l				13Jun22 1021 by 45		
	Batch: W79855	Duplicate	< 0.0050 mg/l	0.00	10.0		13Jun22 1022 by 45		
Total Dissolved Solids		266227-2	1400 mg/l			13Jun22 1340 by 100	15Jun22 1158 by 100		
	Batch: W79860	Duplicate	1400 mg/l	0.792	10.0	13Jun22 1340 by 100	15Jun22 1158 by 100		

LABORATORY CONTROL SAMPLE RESULTS

	Spike									
Analyte	Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Kjeldahl Nitrogen	1 mg/l	119	99.6-146			W79869	14Jun22 1355 by 330	16Jun22 1043 by 352		
Total Dissolved Solids	2000 mg/l	95.9	85.0-115			W79860	13Jun22 1340 by 100	15Jun22 1158 by 100		
Chloride	25 mg/l	99.6	90.0-110			C25381	15Jun22 0832 by 338	15Jun22 1404 by 338		
Nitrate + Nitrite as N	10 mg/l	101	90.0-110			C25381	15Jun22 0832 by 338	15Jun22 1404 by 338		

MATRIX SPIKE SAMPLE RESULTS

	Spike							
Analyte	Sample Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Kjeldahl Nitrogen	266360-2 1 mg/l	107	49.4-153	W79869	14Jun22 1355 by 330	16Jun22 1134 by 352	5	D
	266360-2 1 mg/l	110	49.4-153	W79869	14Jun22 1355 by 330	16Jun22 1136 by 352	5	D
	Relative Percent Difference	e: 0.734	11.6	W79869				D
Chloride	266396-1 25 mg/l	99.0	80.0-120	C25381	15Jun22 0832 by 338	15Jun22 1426 by 338		
	266396-1 25 mg/l	99.1	80.0-120	C25381	15Jun22 0832 by 338	15Jun22 1447 by 338		
	Relative Percent Difference	e: 0.0723	10.0	C25381				
Nitrate + Nitrite as N	266396-1 10 mg/l	100	80.0-120	C25381	15Jun22 0832 by 338	15Jun22 1426 by 338		
	266396-1 10 mg/l	100	80.0-120	C25381	15Jun22 0832 by 338	15Jun22 1447 by 338		
	Relative Percent Difference	e: 0.199	10.0	C25381				

LABORATORY BLANK RESULTS

				QC			
Analyte	Result	RL	LOQ	Sample	Preparation Date	Analysis Date	Qual
Total Kjeldahl Nitrogen	< 0.5 mg/l	0.5	0.5	W79869-1	14Jun22 1355 by 330	16Jun22 1041 by 352	D
Chlorophyll A	< 0.0050 mg/l	0.0050	0.005	W79855-1		13Jun22 1022 by 330	
Total Dissolved Solids	< 25 mg/l	25	25	W79860-1	13Jun22 1340 by 100	15Jun22 1158 by 100	
Chloride	< 0.2 mg/l	0.2	0.2	C25381-1	15Jun22 0832 by 338	15Jun22 1341 by 338	
Nitrate + Nitrite as N	< 0.03 mg/l	0.03	0.05	C25381-1	15Jun22 0832 by 338	15Jun22 1341 by 338	



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

1 OF 1

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SSO WATER QUALITY ASSESSMENT

Date of overflow: 6/10/22-6/11/22

Sample collection date: 6/11/22

Sample collection time at Site #1: 1211

Site #2: 1215 Site #3: 1228

	Overflow location Site 1	Upstream Site 2	Downstream Site 3
pH SU	6.88	7.17	6.93
Temperature C	22	21.1	21.6
DO ppm	8.85	9.05	8.7
Conductivity uS/cm	43.38	42.26	43.96
Turbidity NTU	10.7	10.5	10.6
Alkalinity mg/L	10	10	10
BOD mg/L	0.76	0.51	0.55
TSS mg/L	6.3	4.3	3
Ammonia mg/L	0.01	0.01	0.01
Total Phosphorus mg/L	0.05	0.03	0.03
Ortho-phosphate mg/L	0.01	0.02	0.05
Sulfate mg/L	15.5	15.7	15
TDS mg/L	37	38	34
Chloride mg/L	2	1.9	2
Nitrate/Nitrite mg/L	<0.5	<0.5	<0.5
TKN mg/L	0.71	0.71	0.76
Chlorophyll A mg/L	<0.005	<0.005	<0.005
Fecal Coliforms/100ml	81.25	50	81.25
E. Coli cfu/100ml	313	435.2	209.8