



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 May 24, 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
John Overbey
Chief Operating Officer

This document has been distributed to the following:

PDF cc: City of Hot Springs
ATTN: Mr. Dennis Brunson
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City of Hot Springs
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City of Hot Springs
320 Davidson Drive
Hot Springs, AR 71901

SAMPLE INFORMATION

Project Description:

Three (3) water sample(s) received on May 24, 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:

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Sampled Date/Time</u>	<u>Notes</u>
265844-1	Site 1	24-May-2022 0810	
265844-2	Site 2	24-May-2022 0817	
265844-3	Site 3	24-May-2022 0839	

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).
"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
"Standard Methods for the Examination of Water and Wastewaters", (SM).
"American Society for Testing and Materials" (ASTM).
"Association of Analytical Chemists" (AOAC).

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ANALYTICAL RESULTS
AIC No. 265844-1

Sample Identification: Site 1 24-May-2022 0810

<u>Analyte</u>	<u>Result</u>	<u>RL</u>	<u>Units</u>	<u>Qualifier</u>
Total Kjeldahl Nitrogen EPA 351.2	0.86	0.5	mg/l	D
Prep: 25-May-2022 1604 by 352	Analyzed: 27-May-2022 1650 by 352		Batch: W79675	Dil: 2
Chlorophyll A SM 10200 H 2011	< 0.0050	0.0050	mg/l	
	Analyzed: 24-May-2022 1557 by 45		Batch: W79657	
Total Dissolved Solids SM 2540 C 2015	63	25	mg/l	
Prep: 27-May-2022 0941 by 100	Analyzed: 31-May-2022 0728 by 100		Batch: W79705	
Chloride EPA 300.0	3.3	2	mg/l	D
Prep: 25-May-2022 0834 by 338	Analyzed: 25-May-2022 1804 by 338		Batch: C25337	Dil: 10
Nitrate + Nitrite as N EPA 300.0	< 0.5	0.5	mg/l	D
Prep: 25-May-2022 0834 by 338	Analyzed: 25-May-2022 1742 by 338		Batch: C25337	Dil: 10

AIC No. 265844-2

Sample Identification: Site 2 24-May-2022 0817

<u>Analyte</u>	<u>Result</u>	<u>RL</u>	<u>Units</u>	<u>Qualifier</u>
Total Kjeldahl Nitrogen EPA 351.2	0.72	0.5	mg/l	D
Prep: 25-May-2022 1604 by 352	Analyzed: 27-May-2022 1656 by 352		Batch: W79675	Dil: 2
Chlorophyll A SM 10200 H 2011	< 0.0050	0.0050	mg/l	
	Analyzed: 24-May-2022 1557 by 45		Batch: W79657	
Total Dissolved Solids SM 2540 C 2015	51	25	mg/l	
Prep: 27-May-2022 0941 by 100	Analyzed: 31-May-2022 0728 by 100		Batch: W79705	
Chloride EPA 300.0	3.0	0.2	mg/l	
Prep: 25-May-2022 0834 by 338	Analyzed: 26-May-2022 1643 by 338		Batch: C25337	
Nitrate + Nitrite as N EPA 300.0	< 0.5	0.5	mg/l	D
Prep: 25-May-2022 0834 by 338	Analyzed: 25-May-2022 1913 by 338		Batch: C25337	Dil: 10

AIC No. 265844-3

Sample Identification: Site 3 24-May-2022 0839

<u>Analyte</u>	<u>Result</u>	<u>RL</u>	<u>Units</u>	<u>Qualifier</u>
Total Kjeldahl Nitrogen EPA 351.2	0.91	0.5	mg/l	D
Prep: 25-May-2022 1604 by 352	Analyzed: 27-May-2022 1658 by 352		Batch: W79675	Dil: 2
Chlorophyll A SM 10200 H 2011	< 0.0050	0.0050	mg/l	
	Analyzed: 24-May-2022 1557 by 45		Batch: W79657	
Total Dissolved Solids SM 2540 C 2015	55	25	mg/l	
Prep: 27-May-2022 0941 by 100	Analyzed: 31-May-2022 0728 by 100		Batch: W79705	
Chloride EPA 300.0	3.3	2	mg/l	D
Prep: 25-May-2022 0834 by 338	Analyzed: 25-May-2022 2021 by 338		Batch: C25337	Dil: 10
Nitrate + Nitrite as N EPA 300.0	< 0.5	0.5	mg/l	D
Prep: 25-May-2022 0834 by 338	Analyzed: 25-May-2022 1958 by 338		Batch: C25337	Dil: 10

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DUPLICATE RESULTS

Analyte	AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	Dil	Qual
Chlorophyll A	265844-1	< 0.0050 mg/l				24May22 1557 by 45		
	Batch: W79657 Duplicate	< 0.0050 mg/l	0.00	10.0		24May22 1557 by 45		
Total Dissolved Solids	265862-2	1400 mg/l			27May22 0941 by 100	31May22 0728 by 100		
	Batch: W79705 Duplicate	1400 mg/l	1.76	10.0	27May22 0941 by 100	31May22 0728 by 100		

LABORATORY CONTROL SAMPLE RESULTS

Analyte	Spike Amount	%	Limits	RPD	Limit	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Kjeldahl Nitrogen	1 mg/l	128	99.6-146			W79675	25May22 1604 by 352	27May22 1648 by 352		
Total Dissolved Solids	2000 mg/l	95.7	85.0-115			W79705	27May22 0941 by 100	31May22 0728 by 100		
Chloride	25 mg/l	97.9	90.0-110			C25337	25May22 0835 by 338	25May22 1137 by 338		
Nitrate + Nitrite as N	10 mg/l	95.9	90.0-110			C25337	25May22 0835 by 338	25May22 1137 by 338		

MATRIX SPIKE SAMPLE RESULTS

Analyte	Sample	Spike Amount	%	Limits	Batch	Preparation Date	Analysis Date	Dil	Qual
Total Kjeldahl Nitrogen	265844-1	1 mg/l	94.7	49.4-153	W79675	25May22 1604 by 352	27May22 1652 by 352		
	265844-1	1 mg/l	96.5	49.4-153	W79675	25May22 1604 by 352	27May22 1654 by 352		
	Relative Percent Difference:		1.30	11.6	W79675				
Chloride	265855-2	25 mg/l	97.5	80.0-120	C25337	25May22 0835 by 338	25May22 1159 by 338		
	265855-2	25 mg/l	98.4	80.0-120	C25337	25May22 0835 by 338	25May22 1222 by 338		
	Relative Percent Difference:		0.869	10.0	C25337				
Nitrate + Nitrite as N	265855-2	10 mg/l	95.8	80.0-120	C25337	25May22 0835 by 338	25May22 1159 by 338		
	265855-2	10 mg/l	96.5	80.0-120	C25337	25May22 0835 by 338	25May22 1222 by 338		
	Relative Percent Difference:		0.733	10.0	C25337				

LABORATORY BLANK RESULTS

Analyte	Result	RL	LOQ	QC Sample	Preparation Date	Analysis Date	Qual
Total Kjeldahl Nitrogen	< 0.5 mg/l	0.5	0.5	W79675-1	25May22 1604 by 352	27May22 1646 by 352	D
Chlorophyll A	< 0.0050 mg/l	0.0050	0.005	W79657-1		24May22 1557 by 352	
Total Dissolved Solids	< 25 mg/l	25	25	W79705-1	27May22 0941 by 100	31May22 0728 by 100	
Chloride	< 0.2 mg/l	0.2	0.2	C25337-1	25May22 0835 by 338	25May22 1114 by 338	
Nitrate + Nitrite as N	< 0.03 mg/l	0.03	0.05	C25337-1	25May22 0835 by 338	25May22 1114 by 338	



CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: <u>City of Hot Springs</u>		PO No.: <u>2022-247</u>		NO OF BOTTLES		ANALYSES REQUESTED		AIC CONTROL NO: <u>265844</u>	
Project Reference: <u>Manhole 1750</u>		MATRIX:		WATER		SOIL		AIC PROPOSAL NO:	
Project Manager: <u>Harold Mauldin</u>		GRA B		COM P		Chloride		Carrier:	
Sampled By: <u>AC</u>		Date/Time Collected		Total Dissolved Solids		Nitrate + Nitrite		Received Temperature C	
AIC No. <u>Site 1</u>		<u>5-24-22 @ 0810</u>		✓		✓		<u>3.0/1.8</u>	
AIC No. <u>Site 2</u>		<u>5-24-22 @ 0817</u>		✓		✓		Remarks	
AIC No. <u>Site 3</u>		<u>5-24-22 @ 0839</u>		✓		✓			
Container Type		Preservative		V = VOA vials		H = HCl to pH2		Field pH calibration	
G = Glass		P = Plastic		N = Nitric acid pH2		B = NaOH to pH12		on _____ @ _____	
NO = none		S = Sulfuric acid pH2		V = VOA vials		T = Sodium Thiosulfate		Buffer:	
NO = none				N = Nitric acid pH2		Z = Zinc acetate		A = (NH ₄) ₂ SO ₄ , NH ₄ OH	
Turnaround Time Requested: (Please circle)		Relinquished		Date/Time		Received		Date/Time	
NORMAL or EXPEDITED IN _____ DAYS		By: <u>A. Carter</u>		<u>5-24-22 @ 0957</u>		By: <u>B. Samuel</u>		<u>5-24-22 @ 0957</u>	
Expedited results requested by: _____		Relinquished		Date/Time		Received in Lab		Date/Time	
Who should AIC contact with questions: _____		By: <u>B. Samuel</u>		<u>5-24-22 @ 1112</u>		By: <u>D. Brown</u>		<u>5-24-22 1112</u>	
Phone: _____ Fax: _____		Comments:							
Report Attention to: _____									
Report Address to: _____									
Email Address: _____									

SSO WATER QUALITY ASSESSMENT

Date of overflow: 5/23/22

Sample collection date: 5/24/22

Sample collection time at Site #1: 0810
 Site #2: 0817
 Site #3: 0839

	Overflow location Site 1	Upstream Site 2	Downstream Site 3
pH SU	7.12	7.25	7.21
Temperature C	18.9	18.8	19
DO ppm	8.49	9.26	7.94
Conductivity uS/cm	66.7	65.83	69.07
Turbidity NTU	5.32	8.82	9.66
Alkalinity mg/L	15	15	15
BOD mg/L	0.29	0.45	0.57
TSS mg/L	3.3	8	6.6
Ammonia mg/L	0.01	0.01	0.04
Total Phosphorus mg/L	0.01	0.01	0.01
Ortho-phosphate mg/L	0.03	0.06	0.08
Sulfate mg/L	15	14.6	15.4
TDS mg/L	63	51	55
Chloride mg/L	3.3	3	3.3
Nitrate/Nitrite mg/L	<0.5	<0.5	<0.5
TKN mg/L	0.86	0.72	0.91
Chlophyll A mg/L	<0.005	<0.005	<0.005
Fecal Coliforms/100ml	0	0	0
E. Coli cfu/100ml	135.4	178.5	328.2