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"Providing Tomorrow's Analytical Capabilities Today"

Certificate of Analysis 6031215

Joshua Sizemore
Unify Water
250 W Main St, Suite 3150
Lexington KY, 40507

Customer ID: UN0350
Report Printed: 03/11/2016 13:58

Project Name: Private	Workorder: 6031215
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Dear Joshua Sizemore

Enclosed are the analytical results for samples received at one of our laboratories on 03/03/2016 15:45.

McCoy & McCoy Laboratories, Inc. and Environmental Certification Labs are commercial laboratories accredited by various state and national authorities, including Indiana, Kentucky, Tennessee, and Virginia's National Environmental Laboratory Accreditation Program (NELAP). With the NELAP accreditation, applicable test results are certified to meet the requirements of the National Environmental Laboratory Accreditation Program.

If you have any questions concerning this report please contact the individual listed below.

Please visit our websites at www.mccoylabs.com or www.eclabs.org for a listing of the NELAP accreditations and Scope of Work, as well as, links to other scientific organizations.

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#460210
Madisonville

Mark DeMoss

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Mark DeMoss, Drinking Water Coordinator



SAMPLE SUMMARY

Lab ID	Client Sample ID/Alias	Matrix	Date Collected	Date Received	Sampled By
6031215-01	TN Source Water/	Drinking Water	03/03/2016 10:55	03/03/2016 15:45	Coleman Payne

ANALYTICAL RESULTS

Lab Sample ID: **6031215-01**
Description: **TN Source Water**

Sample Collection Date Time: 03/03/2016 10:55
Sample Received Date Time: 03/03/2016 15:45

Metals by EPA 200 Series Methods

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Aluminum	0.02	U	mg/L	0.02		EPA 200.8 REV 5.4	03/07/2016 15:07	03/07/2016 17:29	DMH
Calcium	28.0		mg/L	0.04	0.01	EPA 200.7 REV 4.4	03/07/2016 09:35	03/07/2016 14:23	TSR
Copper	0.0087		mg/L	0.0010		EPA 200.8 REV 5.4	03/07/2016 15:07	03/07/2016 17:29	DMH
Iron	0.070		mg/L	0.020		EPA 200.7 REV 4.4	03/07/2016 09:35	03/10/2016 14:06	TSR
Magnesium	15.7	B	mg/L	0.028	0.009	EPA 200.7 REV 4.4	03/07/2016 09:35	03/10/2016 14:06	TSR
Manganese	0.002		mg/L	0.002		EPA 200.8 REV 5.4	03/07/2016 15:07	03/07/2016 17:29	DMH
Silver	ND	u	mg/L	0.0020		EPA 200.8 REV 5.4	03/07/2016 15:07	03/07/2016 17:29	DMH
Sodium	3.49		mg/L	0.26	0.10	EPA 200.7 REV 4.4	03/07/2016 08:10	03/07/2016 14:23	TSR
Zinc	ND	u	mg/L	0.01		EPA 200.8 REV 5.4	03/07/2016 15:07	03/07/2016 17:29	DMH

Conventional Chemistry Analyses Madisonville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Bicarbonate Alkalinity as CaCO3	134		mg/L	4	4	2320 B-1997	03/09/2016 11:59	03/09/2016 11:59	TLB
Total Alkalinity	134		mg/L	4	4	2320 B-1997	03/09/2016 11:59	03/09/2016 11:59	TLB
Chloride	3.8		mg/L	0.1	0.07	EPA 300.0 REV 2.1	03/09/2016 14:09	03/09/2016 14:09	DMH
Fluoride	0.3		mg/L	0.2	0.1	EPA 300.0 REV 2.1	03/09/2016 14:09	03/09/2016 14:09	DMH
Sulfate	3		mg/L	1	0.5	EPA 300.0 REV 2.1	03/09/2016 14:09	03/09/2016 14:09	DMH
Total Dissolved Solids	151		mg/L	25	25	2540 C-1997	03/08/2016 15:04	03/10/2016 15:06	JTL

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Color-Visual PCU	ND	u	PCU	1	1	2120 B-2001	03/04/2016 16:27	03/04/2016 16:45	ADH
Odor	ND	H1, U	T.O.N.	1		2150 B-1997	03/04/2016 13:47	03/04/2016 13:50	JTO
pH (Lab)	7.43	H3	Std. Units	0.10	0.10	4500-H+ B-2000	03/04/2016 13:01	03/04/2016 13:01	JTO
Surfactants	ND	u	mg MBAS/L as LAS MW	0.1	0.1	5540 C-2000	03/04/2016 14:05	03/04/2016 14:24	ADH
Temperature C (Lab)	14.3	H3	°C			2550 B-2000	03/04/2016 13:01	03/04/2016 13:01	JTO
Turbidity (Lab)	0.56		NTU	0.02	0.01	EPA 180.1 REV 2	03/04/2016 16:59	03/04/2016 17:03	ADH

Manual Calculation

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Langelier Index	-0.519			-10.0	-10.0	SM2330B	03/10/2016 15:56	03/10/2016 16:02	MDD



Notes for work order 6031215

- Samples collected by MMLI personnel are done so in accordance with procedures set forth in MMLI field services SOPs.
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identification based on the presumptive evidence of the mass spectra.

- B Target analyte detected in method blank at or above the method reporting limit.
- H1 Sample analysis performed past holding time.
- H3 Sample received and analyzed past holding time.
- U Target analyte was analyzed for, but was below detection limit (the value associated with the qualifier is the laboratory method detection limit in our LIMS system).

Standard Qualifiers/Acronyms

- MDL Method Detection Limit
- MRL Minimum Reporting Limit
- ND Not Detected
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- % Rec Percent Recovery
- RPD Relative Percent Difference
- > Greater than
- < Less than



Certified Analyses included in this Report

Analyte	Certifications
2120 B-2001 in Water	
Color-Visual PCU	KY Drinking Water Pkv (00050)
2150 B-1997 in Water	
Odor	KY Drinking Water Pkv (00050)
2320 B-1997 in Water	
Bicarbonate Alkalinity as CaCO3	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) IL Drinking Water Mdv (200079)
Total Alkalinity	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) KY Wastewater Mdv (00030) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
2540 C-1997 in Water	
Total Dissolved Solids	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) KY Wastewater Mdv (00030) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
2550 B-2000 in Water	
Temperature C (Field)	KY Wastewater Pkv (00050)
Temperature C (Lab)	KY Drinking Water Mdv (00030) KY Wastewater Mdv (00030)
4500-H+ B-2000 in Water	
pH (Field)	KY Drinking Water Pkv (00050) KY Wastewater Pkv (00050)
pH (Lab)	KY Drinking Water Pkv (00050)
5540 C-2000 in Water	
Surfactants	KY Drinking Water Pkv (00050) KY Wastewater Pkv (00050)
EPA 180.1 REV 2 in Water	
Turbidity (Lab)	KY Wastewater Pkv (00050) KY Drinking Water Pkv (00050)
EPA 200.7 REV 4.4 in Water	
Calcium	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
Iron	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) IL Drinking Water Mdv (200079)
Magnesium	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
Sodium	VA NELAC Mdv (460210) KY Wastewater Mdv (00030) KY Drinking Water Mdv (00030)
EPA 200.8 REV 5.4 in Water	
Aluminum	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) TN Drinking Water (02819)
Copper	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) IN Drinking Water Mdv (C-KY-02) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
Manganese	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
Silver	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
Zinc	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
EPA 300.0 REV 2.1 in Water	
Chloride	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) KY Wastewater Mdv (00030) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
Fluoride	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) IN Drinking Water Mdv (C-KY-02) KY Wastewater Mdv (00030) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
Sulfate	KY Drinking Water Mdv (00030) VA NELAC Mdv (460210) KY Wastewater Mdv (00030) TN Drinking Water (02819) IL Drinking Water Mdv (200079)
SM2330B in Water	
Langelier Index	KY Drinking Water Mdv (00030)



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Louisville, KY
502.961.0001

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270.444.6547

"Providing Tomorrow's Analytical Capabilities Today"

Sample Acceptance Checklist for Work Order 6031215

Shipped By: MMLI

Temperature: 1.00° Celcius

Condition

Custody seals present/intact?	<input type="checkbox"/>
Were any containers received damaged?	<input type="checkbox"/>
COC submitted and complete?	<input checked="" type="checkbox"/>
COC agree with sample labels?	<input checked="" type="checkbox"/>
All containers listed on COC received?	<input checked="" type="checkbox"/>
Were all samples in appropriate containers?	<input checked="" type="checkbox"/>
Did all samples have appropriate volumes?	<input checked="" type="checkbox"/>
Were collection methods recorded on COC?	<input type="checkbox"/>
Were flow units recorded on COC?	<input type="checkbox"/>
Any headspace issues with volatile samples?	<input type="checkbox"/>
Were all holding times acceptable?	<input checked="" type="checkbox"/>
Were preserved samples within acceptable pH range?	<input checked="" type="checkbox"/>
Were preserved samples within acceptable Cl2 range	<input checked="" type="checkbox"/>

Chain of Custody

Scheduled for: **03/02/2016**



Client: **Unify Water**

Report To:
Unify Water

Invoice To:
Unify Water

Project: **Private**

Joshua Sizemore
250 W Main St, Suite 3150
Lexington, KY 40507

Joshua Sizemore
250 W Main St, Suite 3150
Lexington, KY 40507

Phone: (213) 359-8881

PO#: _____

PWS ID#: _____

State: _____

Quote# _____

Please Print Legibly

Collected by (Signature): Calvin Payne
required information

Compliance Monitoring? Yes No

*For composite samples please indicate begin time, end time and temp(oC) at end time below:

Samples Chlorinated? Yes No

Influent: Start Date _____ Start time _____ End Date _____ End Time _____ Temp (oC) _____

Effluent: Start Date _____ Start time _____ End Date _____ End Time _____ Temp (oC) _____

Workorder # Sample ID#	Date (mm/dd/yy):	Collection Time (24 hr):	Bottle and Preservative	Containers	Sample Description	Composite	Sample Analysis Requested
6031215-01 A	03/03/16	1055	Plastic 1L	1	TN Source Water	g / c	Alkalinity Tot Turbidity TDS Surfactants Sulfate 300.0 Fluoride 300.0 Chloride 300.0
6031215-01 B			Plastic 1L pH<2 w/HNO3	1	TN Source Water	g / c	Sodium Tot 200.7 Calcium No Prep 200.7 Zinc No Prep 200.8 Silver No Prep 200.8 Manganese No Prep 200.8 Copper No Prep 200.8 Aluminum No Prep 200.8 Iron No Prep 200.7
Preservation Check: pH : _____							
6031215-01 C			AWMG 1L	1	TN Source Water	g / c	Surfactants Odor Turbidity Color PCU TDS
6031215-01 D			*** DEFAULT CONTAINER ***	1	TN Source Water	g / c	Trip 200 Lex TN Langelier Calculation
6031215-01 E			AWMG 1L	1	TN Source Water	g / c	Turbidity TDS Surfactants Odor Color PCU
6031215-01 F			Field Measurement	1	TN Source Water	g / c	pH (Field) Lex Temperature C (Field) Lex

*5 Day Rush - dup

Preservation Check Performed by: _____

Field data collected by: _____	Date (mm/dd/yy) _____	Time (24 hr) _____
pH _____	Cond (umho) _____	Res Cl (mg/L) _____
Temp (oC) _____	or (oF) _____	Static Water Level _____
Flow (MGD) _____	or (CFS) _____	or (g/min) _____
		DO (mg/L) _____
		Turb. (NTU) _____
		Free Cl (mg/L) _____

Relinquished by: (Signature) <u>Calvin Payne</u>	Received by: (Signature) <u>Johnny Osborne</u>	Date (mm/dd/yy) <u>3-3-16</u>	Time (24 hr) <u>1545</u>
_____	_____	_____	_____
_____	_____	_____	_____

Chain of Custody

Scheduled for: 03/02/2016



Client: **Unify Water**

Report To:
Unify Water

Invoice To:
Unify Water

Project: **Private**

Joshua Sizemore
250 W Main St, Suite 3150
Lexington, KY 40507

Joshua Sizemore
250 W Main St, Suite 3150
Lexington, KY 40507

Phone: (213) 359-8881
PWS ID#:
State: _____

PO#: _____
Quote# _____

Please Print Legibly

Collected by (Signature): *Adam Payne*
required information

Compliance Monitoring? Yes No
Samples Chlorinated? Yes No

*For composite samples please indicate begin time, end time and temp(oC) at end time below:

Influent: Start Date _____ Start time _____ End Date _____ End Time _____ Temp (oC) _____

Effluent: Start Date _____ Start time _____ End Date _____ End Time _____ Temp (oC) _____

MMLI USE ONLY		*required information*		Bottle and Preservative	Containers	Sample Description	Composite	Sample Analysis Requested
Workorder #	Date	Collection						
6031215	(mm/dd/yy):	Time (24 hr):						
Sample ID#								
6031215-01 G	<u>03/03/16</u>	<u>1055</u>		Plastic 500mL pH<2 w/HNO3	1	TN Source Water	g / c	Zinc No Prep 200.8 Sodium Tot 200.7 Silver No Prep 200.8 Manganese No Prep 200.8 Iron No Prep 200.7 Copper No Prep 200.8 Aluminum No Prep 200.8 Calcium No Prep 200.7
	<u>↓</u>	<u>↓</u>						
6031215-01 H				*** DEFAULT CONTAINER ***	1	TN Source Water	g / c	Trip 200 Lex TN Langelier Calculation

Preservation Check Performed by: _____

Field data collected by: _____	Date (mm/dd/yy) _____	Time (24 hr) _____
pH _____	Cond (umho) _____	Res Cl (mg/L) _____
Temp (oC) _____	or (oF) _____	Static Water Level _____
Flow (MGD) _____	or (CFS) _____	or (g/min) _____
	Tot Cl (mg/L) _____	Free Cl (mg/L) _____
	DO (mg/L) _____	Turb. (NTU) _____

Relinquished by: (Signature) <u><i>Adam Payne</i></u>	Received by: (Signature) <u><i>Johnny Osborne</i></u>	Date (mm/dd/yy) <u>3-3-16</u>	Time (24 hr) <u>1545</u>
_____	_____	_____	_____
_____	_____	_____	_____