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# **TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc. TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Tel: (615)726-0177

TestAmerica Job ID: 490-127165-1 Client Project/Site: City of Monticello Feldspar

For: Greenes Water Wells, Inc. 3535 Gray Highway

Gray, Georgia 31032

Attn: Mr. Donald Greene

Authorized for release by: 4/29/2017 11:08:38 PM

Lathyn fruith

Kathryn Smith, Manager of Project Management (912)354-7858

kathy.smith@testamericainc.com

Designee for

Sheila Hoffman, Project Manager II (912)354-7858 e.3004 sheila.hoffman@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar

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# Sample Summary

Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-127165-1	Feldspar Malone Lake L1	Water	04/26/17 10:00 0	4/27/17 09:45
490-127165-2	Feldspar Malone Lake L2	Water	04/26/17 10:35 0	4/27/17 09:45
490-127165-3	Feldspar Malone Lake L3	Water	04/26/17 10:50 0	4/27/17 09:45
490-127165-4	Feldspar Malone Lake L4	Water	04/26/17 10:15 0	4/27/17 09:45

#### **Case Narrative**

Client: Greenes Water Wells, Inc.
Project/Site: City of Monticello Feldspar

TestAmerica Job ID: 490-127165-1

Job ID: 490-127165-1

Laboratory: TestAmerica Nashville

Narrative

**CASE NARRATIVE** 

Client: Greenes Water Wells, Inc. Project: City of Monticello Feldspar

Report Number: 490-127165-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

#### RECEIPT

The samples were received on 04/27/2017; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.3 C.

#### **FORMALDEHYDE**

Samples Feldspar Malone Lake L1 (490-127165-1), Feldspar Malone Lake L2 (490-127165-2), Feldspar Malone Lake L3 (490-127165-3) and Feldspar Malone Lake L4 (490-127165-4) were analyzed for formaldehyde in accordance with EPA SW-846 Method 8315A. The samples were prepared on 04/28/2017 and analyzed on 04/29/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# **Definitions/Glossary**

Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

# Glossary

<b>Abbreviation</b>	These commonly used abbreviations may or may not be present in this report.
	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

Client Sample ID: Feldspar Malone Lake L1

Lab Sample ID: 490-127165-1

Date Collected: 04/26/17 10:00 Date Received: 04/27/17 09:45 Matrix: Water

Method: 8315A - Carbonyl Compounds by HPLC										
Analyte	•	Qualifier	RL	MDL	Unit		D Prepared	Analyzed	Dil Fac	
Formaldehyde	<50		50	13	ug/L	<del></del>	04/28/17 06:12	04/29/17 02:20	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
Butyraldehyde	85		54 - 128				04/28/17 06:12	04/29/17 02:20	1	



Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

Client Sample ID: Feldspar Malone Lake L2

Date Collected: 04/26/17 10:35 Date Received: 04/27/17 09:45 Lab Sample ID: 490-127165-2

Matrix: Water

Method: 8315A - Carbonyl Compounds by HPLC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	<50		50	13	ug/L	_	04/28/17 06:12	04/29/17 02:43	1

 Surrogate
 %Recovery
 Qualifier
 Limits
 Prepared
 Analyzed
 Dil Fac

 Butyraldehyde
 78
 54 - 128
 04/28/17 06:12
 04/29/17 02:43
 1



Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

Client Sample ID: Feldspar Malone Lake L3

Lab Sample ID: 490-127165-3

Date Collected: 04/26/17 10:50 Date Received: 04/27/17 09:45 **Matrix: Water** 

Me	thod: 8315A - Carbonyl Compounds by HPLC	
: Ans		

 Analyte
 Result Qualifier
 RL
 MDL Unit
 D Prepared
 Analyzed
 Dil Fac

 Formaldehyde
 <50</td>
 50
 13
 ug/L
 04/28/17 06:12
 04/29/17 03:06
 1

 Surrogate
 %Recovery
 Qualifier
 Limits
 Prepared
 Analyzed
 Dil Fac

 Butyraldehyde
 78
 54 - 128
 04/28/17 06:12
 04/29/17 03:06
 1



Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

Client Sample ID: Feldspar Malone Lake L4

Lab Sample ID: 490-127165-4

Date Collected: 04/26/17 10:15
Date Received: 04/27/17 09:45

Butyraldehyde

Matrix: Water

Dute Heer	TOU. UTILITIES	UJ.70	
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75

Method: 8315A - Carbonyl Compounds by HPLC										
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
Formaldehyde	<50	50	13	ug/L	_	04/28/17 06:12	04/29/17 03:30	1		
Surrogate	%Recovery Qualifier	Limits				Prepared	Analyzed	Dil Fac		

54-128

 Prepared
 Analyzed
 Dil Fac

 04/28/17 06:12
 04/29/17 03:30
 1



# **QC Sample Results**

Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

#### Method: 8315A - Carbonyl Compounds by HPLC

Lab Sample ID: MB 490-425759/1-A
Matrix: Water
Analysis Batch: 425953
MB MB

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 425759

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Formaldehyde
 <50</td>
 50
 13
 ug/L
 04/28/17 06:12
 04/28/17 22:04
 1

 MB MB

 Surrogate
 %Recovery
 Qualifier
 Limits
 Prepared
 Analyzed
 Dil Fac

 Butyraldehyde
 88
 54 - 128
 04/28/17 06:12
 04/28/17 22:04
 1

Lab Sample ID: LCS 490-425759/2-A

Client Sample ID: Lab Control Sample Matrix: Water

Prep Type: Total/NA

Analysis Batch: 425953 **Prep Batch: 425759** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Formaldehyde 100 112 ug/L 112 47 - 150

LCS LCS
Surrogate %Recovery Qualifier Limits
Butyraldehyde 88 54-128

# **QC Association Summary**

Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

# HPLC/IC

Prep	Batc!	h: 42	25759
------	-------	-------	-------

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-127165-1	Feldspar Malone Lake L1	Total/NA	Water	8315_W_Prep	
490-127165-2	Feldspar Malone Lake L2	Total/NA	Water	8315_W_Prep	
490-127165-3	Feldspar Malone Lake L3	Total/NA	Water	8315_W_Prep	
490-127165-4	Feldspar Malone Lake L4	Total/NA	Water	8315_W_Prep	
MB 490-425759/1-A	Method Blank	Total/NA	Water	8315_W_Prep	
LCS 490-425759/2-A	Lab Control Sample	Total/NA	Water	8315_W_Prep	

#### Analysis Batch: 425953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-127165-1	Feldspar Malone Lake L1	Total/NA	Water	8315A	425759
490-127165-2	Feldspar Malone Lake L2	Total/NA	Water	8315A	425759
490-127165-3	Feldspar Malone Lake L3	Total/NA	Water	8315A	425759
490-127165-4	Feldspar Malone Lake L4	Total/NA	Water	8315A	425759
MB 490-425759/1-A	Method Blank	Total/NA	Water	8315A	425759
LCS 490-425759/2-A	Lab Control Sample	Total/NA	Water	8315A	425759

#### **Lab Chronicle**

Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

Client Sample ID: Feldspar Malone Lake L1

Date Collected: 04/26/17 10:00 Date Received: 04/27/17 09:45 Lab Sample ID: 490-127165-1

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	8315_W_Prep			100 mL	1 mL	425759	04/28/17 06:12	ET	TAL NSH
Total/NA	Analysis	8315A		1			425953	04/29/17 02:20	ET	TAL NSH

Client Sample ID: Feldspar Malone Lake L2

Date Collected: 04/26/17 10:35 Date Received: 04/27/17 09:45

Lab Sample ID: 490-127165-2 Matrix: Water

Batch         Batch         Dil         Initial         Final         Batch         Prepared           Prep Type         Type         Method         Run         Factor         Amount         Number         or Analyzed         Analyst         L           Total/NA         Prep         8315_W_Prep         100 mL         1 mL         425759         04/28/17 06:12         ET         T           Total/NA         Analysis         8315A         1         425953         04/29/17 02:43         ET         T	Type Typ	Total/NA
---	----------	----------

Client Sample ID: Feldspar Malone Lake L3

Date Collected: 04/26/17 10:50 Date Received: 04/27/17 09:45

Lab Sample ID: 490-127165-3

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	8315_W_Prep			100 mL	1 mL	425759	04/28/17 06:12	ET	TAL NSH
Tota!/NA	Analysis	8315A		1			425953	04/29/17 03:06	ET	TAL NSH

Client Sample ID: Feldspar Malone Lake L4

Date Collected: 04/26/17 10:15

Date Received: 04/27/17 09:45

Lab Sample ID: 490-127165-4

Matrix: Water

		Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Pro	эр Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
To	tal/NA	Prep	8315_W_Prep			100 mL	1 mL	425759	04/28/17 06:12	ET	TAL NSH
To	tal/NA	Analysis	8315A		1			425953	04/29/17 03:30	ET	TAL NSH

#### **Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# **Method Summary**

Client: Greenes Water Wells, Inc. Project/Site: City of Monticello Feldspar TestAmerica Job ID: 490-127165-1

MethodMethod DescriptionProtocolLaboratory8315ACarbonyl Compounds by HPLCSW846TAL NSH

#### **Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### **Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



THE LEADER IN ENVIRONMENTAL TESTING NASHVIIIe. TN

#### **COOLER RECEIPT FORM**



Cooler Received/Opened On 4/27/2017 0945 Time Samples Placed In Storage 170 **Time Samples Removed From Cooler** (last 4 digits, FedEx) Tracking # Courier: Chlorine Strip Lot IR Gun ID\_97310166 2. Temperature of rep. sample or temp blank when opened: Degrees Celsius 3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...N YES...NO...NA 4. Were custody seals on outside of cooler? If yes, how many and where:\_ 5. Were the seals intact, signed, and dated correctly? YES...NO...NA 6. Were custody papers inside cooler? YES...NQ. I certify that I opened the cooler and answered questions 1-6 (intial) 7. Were custody seals on containers: and Intact Were these signed and dated correctly? YES...NO(..NA 8. Packing mat'l used? Bubblewap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None 9. Cooling process: Ice-pack Ice (direct contact) Dry ice Other None 10. Did all containers arrive in good condition (unbroken)? (YES...NO...NA 11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA 12. Did all container labels and tags agree with custody papers? PES...NO...NA 13a. Were VOA vials received? YES. (NO)..NA b. Was there any observable headspace present in any VOA vial? YES...NO.(.NA) 14. Was there a Trip Blank in this cooler? YES...NO (NA) If multiple coolers, sequence #\_ I certify that I unloaded the cooler and answered questions 7-14 (intial) 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NQINA b. Did the bottle labels indicate that the correct preservatives were used 16. Was residual chlorine present? YES...NO. (NA Leartify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) 17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA 18. Did you sign the custody papers in the appropriate place? ..NO...NA 19. Were correct containers used for the analysis requested? YES...NO...NA 20. Was sufficient amount of sample sent in each container? ...NO...NA I certify that I entered this project into LIMS and answered questions 17-20 (Intial) I certify that I attached a label with the unique LIMS number to each container (intial) 21. Were there Non-Conformance issues at login? YES...(NO) Was a NCM generated? YES.

#### TestAmerica Savannah

5102 LaRoche Avenue Savannah, GA 31404

# Chain of Custody Record

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<b>TestAm</b>	KT   K . K . J

Phone (912) 354-7858 Fax (912) 352-0165																			THE LEADER IN FY	VIRONMENTAL TESTING
Client Information	Sampler, Jan	rell G	reen	Leb F Hoff	M: man,	Shei	la B					C	mier T	racking	No(s)	:			COC No: 680-83491-33980	11
Clent Contact: Ms. Jennifer Nunn	Sampler Jan Phono: 478	98Le:	3192	E-Ma shei		ffmar	@tes	tamer	ricain	c.com	)	1						Ī	Page: Page 1 of 1	
Greenes Water Wells, Inc.									Δ	nalys	ie E	Pagu	oeto						Job#:	
Address	Due Date Request	ed:			F		1		ΓÏ		1			Ť	Τ		<u> </u>	+	Preservation Code	08:
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Phone: 478 986 3192	Purchase Orde	not require	d		No.														G - Amchior	S - H2SO4 T - TSP Dodeczhydrate U - Acetone
jennifer@greeneswaterwells.com Project Name:	Project #:				o g	2	1										ľ.		J - DI Water K - EDTA	V - MCAA W - pH 4-5
City of Monticello Feldspar	68018066					2						-	1	1	1		-	듣	L-EDA	Z - other (specify)
Site:	SSOW#:				g w							-	-	ĺ				o con	Other:	
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W-water, S-solid, O-weste/oil, B7=Tissue, A-Alr)	Field Filtered S	Performing (MSD:(7												Total Number o	Special Ins	structions/Note:
			<del></del>	ation Code:	Ϋ́	×Ν	+-	$\perp$			1	1	4	1	1			XI.		
Feldspar Malone Lake L1	4-26-17	<del></del>		Water	Ц	1	_					_ _		_	_					
Feldspar Malone Lake L2	4-26-17			Water	Ш	Y	-				$\bot$	$\perp$	_ _	┸						
Feldspar Malone Lake L3	4-26-17			Water	Ш	1											Ì			
Feldspor Malone Lake L4	4-26-17	16:15A	m	Water	Ш	1	<u> </u>													
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Possible Hazard Identification  Non-Hazard Flammable Skin Irritant Pois					S	amp	ie Dis	posa	I(A	fee m	ay b	e ass	esse	d if sa	ampi	s are	reta	ine	d longer than 1 r	nonth)
Deliverable Requested: I, II, III, IV, Other (specify)	on B Unkn	own — F	Radiological			peci	Retur	n To (	Client	C Rec	uiren	Disp	oosal	By La	eb		An	chiv	re For	Months
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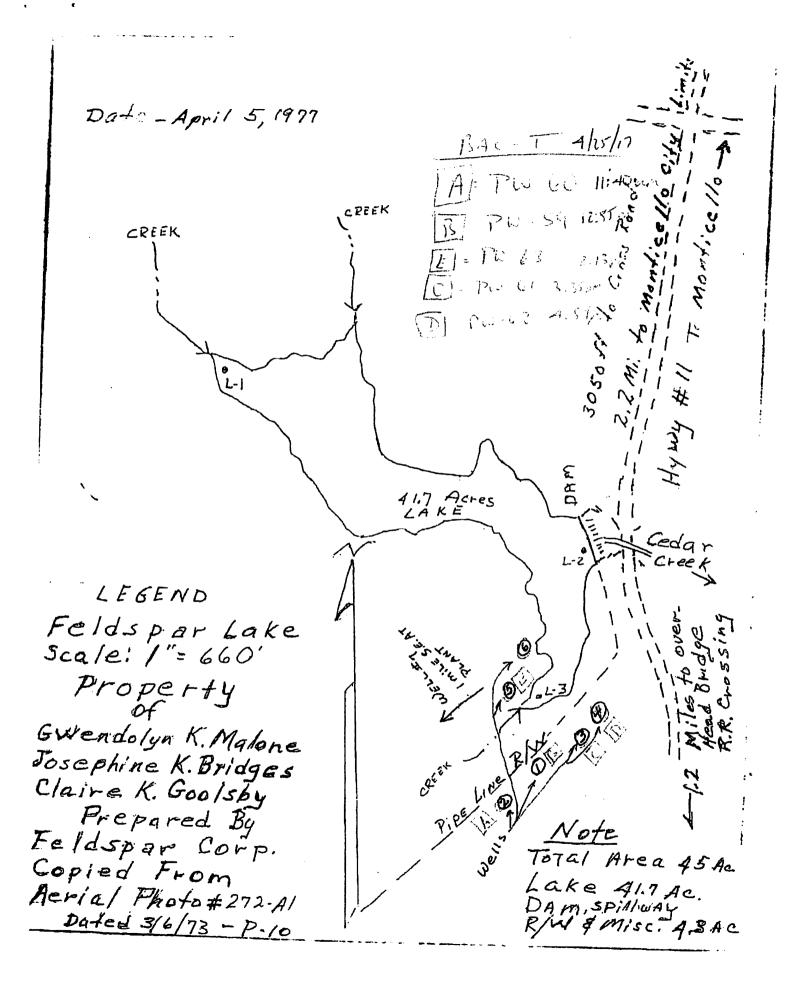
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2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4478	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-4	Malone Lake	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

#### Results

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 35 ppm (2.0 gr/gal) - Slightly Hard Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*	
Alkalinity	42 ppm		Magnesium (Mg)	3.3 ppm	No Set Maximum	
Aluminum (Al)	0.19 ppm	0.2 ppm (S)	Manganese (Mn)	negligible	0.05 ppm (S)	
Boron (B)	0.02 ppm	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum	
Calcium (Ca)	8.8 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum	
Carbon Dioxide (CO <sub>2</sub> )	1.05 ppm		Nitrate+Nitrite as N	negligible	10.0 ppm (P)	
Chloride (Cl)	9.56 ppm	250 ppm (S)	Nitrate-Nitrogen	1	100 (D)	
Chromium (Cr)	negligible	0.1 ppm (P)	(NO <sub>3</sub> N)	negligible	10.0 ppm (P)	
Color	15 units	15 Units (S)	Nitrite-Nitrogen	4		
Conductivity (Specific	122 0/ 8		(NO <sub>2</sub> N)	negligible	1.0 ppm (P)	
Conductance @ 25°C)	133 μS/cm <sup>a</sup> (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible		
C (C:-)		1.0 ppm (S)	Phosphorus (P)	negligible	No Set Maximum	
Copper (Cu)	negligible	1.3 ppm (P)	Potassium (K)	3.3 ppm	No Set Maximum	
Flue :: 1. (F)		2.0 ppm (S)	Silica (SiO <sub>2</sub> )	8.66 ppm	· No Set Maximum	
Fluoride (F)	negligible	4.0 ppm (P)	Sodium (Na)	11.8 ppm	No Set Maximum	
Iron (Fe)	0.26 ppm	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	7.30 ppm	250 ppm (S)	

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm:

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE:

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

#### Report continued on next page

Learning for Life

# **Login Sample Receipt Checklist**

Client: Greenes Water Wells, Inc.

Job Number: 490-127165-1

List Source: TestAmerica Nashville

Login Number: 127165

List Number: 1

Creator: Gundi, Hozar K

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <a href="mailto:smm">c6mm</a> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



2400 College Station Road Athens, Georgia 30602-9105

Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4475	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-1	Malone Lake	Printed: May 9, 2017 Tests: W33	ph: 706-542-5350
Type: Household Well		lests: W33	e-mail: soiltest@uga.edu

#### Results

pH: 7.5 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 37 ppm (2.2 gr/gal) - Slightly Hard Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*	
Alkalinity	44 ppm		Magnesium (Mg)	3.4 ppm	No Set Maximum	
Aluminum (Al)	0.47 ppm <sup>a</sup>	0.2 ppm (S)	Manganese (Mn)	0.18 ppm <sup>c</sup>	0.05 ppm (S)	
Boron (B)	0.03 ppm	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum	
Calcium (Ca)	9.3 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum	
Carbon Dioxide (CO <sub>2</sub> )	2.65 ppm		Nitrate+Nitrite as N	negligible	10.0 ppm (P)	
Chloride (Cl)	10.03 ppm	250 ppm (S)	Nitrate-Nitrogen			
Chromium (Cr)	negligible	0.1 ppm (P)	(NO <sub>3</sub> N)	negligible	10.0 ppm (P)	
Color	23 units <sup>b</sup>	15 Units (S)	Nitrite-Nitrogen			
Conductivity (Specific	120 0/ 6		(NO <sub>2</sub> N)	negligible	1.0 ppm (P)	
Conductance @ 25°C)	138 μS/cm <sup>c</sup> (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible		
Copper (Cu)		1.0 ppm (S)	Phosphorus (P)	0.03 ppm	No Set Maximum	
	negligible	1.3 ppm (P)	Potassium (K)	3.8 ppm	No Set Maximum	
Fluoride (F)	1:-:1-1-	2.0 ppm (S)	Silica (SiO <sub>2</sub> )	10.80 ppm	No Set Maximum	
r morride (F)	negligible	4.0 ppm (P)	Sodium (Na)	12.4 ppm	No Set Maximum	
Iron (Fe)	0.72 ppm <sup>d</sup>	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	7.07 ppm	250 ppm (S)	

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm: Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE: This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

## Report continued on next page



2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4475	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-1	Malone Lake	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

#### Results continued

pH: 7.5 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 37 ppm (2.2 gr/gal) - Slightly Hard Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	110 ppm	500 ppm (S)			
Turbidity	10.9 NTU <sup>f</sup>	5 NTU (P)			
Zinc (Zn)	negligible	5.0 ppm (S)			

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm:

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE:

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

## Comments are listed on the next page

# Water Analysis Report

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4475	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-1	Malone Lake	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

#### <sup>a</sup> Aluminum (Al)

The EPA recommends that the concentration of aluminum in drinking water not exceed 0.2 parts per million (ppm) of aluminum because of taste and odor problems. Aluminum occurs naturally as a constituent of soils. Acidic water may dissolve aluminum. Adjusting the drinking water pH to 7 or higher will reduce the dissolved aluminum levels. Low level exposure to aluminum from water is not thought to harm human health.

#### b Color

EPA has established a National Secondary Drinking Water Standard of 15 color units. It is established only as a guideline to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health. Color may be indicative of dissolved organic material, high disinfectant demand and the potential for the production of excess amounts of disinfectant by-product. Inorganic contaminants such as metals are also common causes of color. Most people find color objectionable over 15 color units.

#### <sup>c</sup> Conductivity

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens ( $\mu$ S) or micro-mhos ( $\mu$ mhos) per centimeter ( $\mu$ S/cm =  $\mu$ mhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3  $\mu$ S/cm and most drinking water in the United States ranges from 50 to 1500  $\mu$ S/cm.

#### d Iron (Fe)

The concentration of iron in this sample exceeds EPA's secondary maximum contaminant level of 0.3 parts per million (ppm) for drinking water. Iron does not pose a threat to health, but can cause bitter or metallic taste and reddish brown stains in laundry and plumbing fixtures.

Iron can be removed by chlorination, ion-exchange softening, oxidizing filters, or aerating the water. Contact your local water treatment professional for selecting an appropriate treatment system.

#### Comments continued on next page

# Water Analysis Report

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4475	Soil, Plant, and Water Laboratory
,	Sample Address City of Monticello Feldspar	Received: Apr 27, 2017 Completed: May 9, 2017	2 100 Conege Station Items
Sample: Malone Lake L-1 Type: Household Well	Malone Lake	Printed: May 9, 2017 Tests: W33	ph: 706-542-5350 e-mail: soiltest@uga.edu

#### <sup>e</sup> Manganese (Mn)

The concentration of manganese in this sample exceeds EPA's secondary maximum contaminant level of 0.05 parts per million (ppm) for drinking water. Manganese does not pose a threat to health, but can cause bitter or metallic taste and dark brown or black stains in laundry and plumbing fixtures. Water treatment is recommended only if these particular symptoms are causing a problem.

An ion-exchange water softener can be used to remove up to 5.0 ppm combined manganese and iron, but is not normally used unless water softening is also desired. Any oxidized manganese and/or iron should be removed by filtration ahead of the water softener.

An oxidizing filter may be used to remove up to 10.0 ppm combined manganese and iron. To work properly, some oxidizing filters require the pH of the water to be above 7.0. If pH adjustment is required, this can be accomplished by a neutralizing tank or soda ash injection ahead of oxidizing filter.

If the combined concentrations of iron and manganese exceed 10.0 ppm, or if disinfection is also desired, removal can be accomplished by chlorination followed by filtration. If desired, the chlorine residual may be removed with an activated carbon filter.

#### f Turbidity

Under EPA surface water treatment rules, turbidity (cloudiness of water) should not go above 5 nephelometric units (NTU). Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of microorganisms such as bacteria, viruses, and parasites.

All parameters tested are within the permissible limits established for drinking water.



2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4476	Soil, Plant, and Water Laboratory
•	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-2	Malone Lake	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

#### Results

pH: 7.8 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 36 ppm (2.1 gr/gal) - Slightly Hard Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Alkalinity	41 ppm		Magnesium (Mg)	3.3 ppm	No Set Maximum
Aluminum (Al)	0.16 ppm	0.2 ppm (S)	Manganese (Mn)	0.05 ppm	0.05 ppm (S)
Boron (B)	0.02 ppm	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum
Calcium (Ca)	8.9 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum
Carbon Dioxide (CO <sub>2</sub> )	1.19 ppm		Nitrate+Nitrite as N	negligible	10.0 ppm (P)
Chloride (Cl)	9.60 ppm	250 ppm (S)	Nitrate-Nitrogen (NO <sub>3</sub> -N)	negligible	10.0 ppm (P)
Chromium (Cr)	negligible	0.1 ppm (P)			
Color	14 units	15 Units (S)	Nitrite-Nitrogen		
Conductivity (Specific	122 0/ 8		(NO <sub>2</sub> N)	negligible	1.0 ppm (P)
Conductance @ 25°C)	133 μS/cm <sup>a</sup> (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible	
Common (Cv.)	1: . : 1. 1 .	1.0 ppm (S)	Phosphorus (P)	negligible	No Set Maximum
Copper (Cu)	negligible	1.3 ppm (P)	Potassium (K)	3.4 ppm	No Set Maximum
Fluoride (F)	negligible	2.0 ppm (S) 4.0 ppm (P)	Silica (SiO <sub>2</sub> )	8.64 ppm	No Set Maximum
			Sodium (Na)	11.8 ppm	No Set Maximum
Iron (Fe)	0.22 ppm	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	7.39 ppm	250 ppm (S)

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm: Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE: This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

# Report continued on next page



2400 College Station Road
Athens, Georgia 30602-9105
Websites, http://easl.com/georgia.ad

Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4476	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-2	Malone Lake	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

#### Results continued

pH: 7.8 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 36 ppm (2.1 gr/gal) - Slightly Hard Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	93 ppm	500 ppm (S)			
Turbidity	4.2 NTU	5 NTU (P)			
Zinc (Zn)	negligible	5.0 ppm (S)			
	1				

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

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Comments are listed on the next page

# Water Analysis Report

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4476	Soil, Plant, and Water Laboratory
	Sample Address City of Monticello Feldspar	Received: Apr 27, 2017 Completed: May 9, 2017	2400 College Station Road Athens, GA 30602
Sample: Malone Lake L-2 Type: Household Well	Malone Lake	Printed: May 9, 2017 Tests: W33	ph: 706-542-5350 e-mail: soiltest@uga.edu

#### <sup>a</sup> Conductivity

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens ( $\mu$ S) or micro-mhos ( $\mu$ mhos) per centimeter ( $\mu$ S/cm =  $\mu$ mhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3  $\mu$ S/cm and most drinking water in the United States ranges from 50 to 1500  $\mu$ S/cm.

All parameters tested are within the permissible limits established for drinking water.



2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4477	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-3	Malone Lake	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

#### Results

pH: 7.8 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 37 ppm (2.2 gr/gal) - Slightly Hard Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Alkalinity	42 ppm		Magnesium (Mg)	3.4 ppm	No Set Maximum
Aluminum (Al)	0.14 ppm	0.2 ppm (S)	Manganese (Mn)	0.18 ppm <sup>d</sup>	0.05 ppm (S)
Boron (B)	0.02 ppm	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum
Calcium (Ca)	9.1 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum
Carbon Dioxide (CO <sub>2</sub> )	1.34 ppm		Nitrate+Nitrite as N	negligible	10.0 ppm (P)
Chloride (Cl)	9.35 ppm	250 ppm (S)	Nitrate-Nitrogen (NO <sub>3</sub> <sup>-</sup> -N)	negligible	10.0 ppm (P)
Chromium (Cr)	negligible	0.1 ppm (P)			
Color	16 units <sup>a</sup>	15 Units (S)	Nitrite-Nitrogen	11.11	1.0 (D)
Conductivity (Specific	124 b		(NO <sub>2</sub> -N)	negligible	1.0 ppm (P)
Conductance @ 25°C)	134 μS/cm <sup>b</sup> (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible	
C (C)		1.0 ppm (S)	Phosphorus (P)	negligible	No Set Maximum
Copper (Cu)	negligible	1.3 ppm (P)	Potassium (K)	3.2 ppm	No Set Maximum
Fluoride (F)		2.0 ppm (S)	Silica (SiO <sub>2</sub> )	9.09 ppm	No Set Maximum
	negligible	4.0 ppm (P)	Sodium (Na)	11.5 ppm	No Set Maximum
Iron (Fe)	0.42 ppm <sup>c</sup>	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	7.45 ppm	250 ppm (S)

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

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1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE: This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

#### Report continued on next page



2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4477	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2 100 Conogo Station Roda
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-3	Malone Lake	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

#### Results continued

pH: 7.8 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 37 ppm (2.2 gr/gal) - Slightly Hard Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	81 ppm	500 ppm (S)			
Turbidity	6.6 NTU°	5 NTU (P)			
Zinc (Zn)	negligible	5.0 ppm (S)			
		1			

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm:

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE:

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If you have concerns in these areas, contact your County Extension Agent.

Comments are listed on the next page

Learning for Life

# Water Analysis Report

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4477	Soil, Plant, and Water Laboratory
Sample: Malone Lake L-3 Type: Household Well	Sample Address City of Monticello Feldspar Malone Lake	Received: Apr 27, 2017 Completed: May 9, 2017 Printed: May 9, 2017 Tests: W33	2400 Conege Station Road

#### a Color

EPA has established a National Secondary Drinking Water Standard of 15 color units. It is established only as a guideline to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health. Color may be indicative of dissolved organic material, high disinfectant demand and the potential for the production of excess amounts of disinfectant by-product. Inorganic contaminants such as metals are also common causes of color. Most people find color objectionable over 15 color units.

#### <sup>b</sup> Conductivity

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens ( $\mu$ S) or micro-mhos ( $\mu$ mhos) per centimeter ( $\mu$ S/cm =  $\mu$ mhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3  $\mu$ S/cm and most drinking water in the United States ranges from 50 to 1500  $\mu$ S/cm.

#### c Iron (Fe)

The concentration of iron in this sample exceeds EPA's secondary maximum contaminant level of 0.3 parts per million (ppm) for drinking water. Iron does not pose a threat to health, but can cause bitter or metallic taste and reddish brown stains in laundry and plumbing fixtures.

Iron can be removed by chlorination, ion-exchange softening, oxidizing filters, or aerating the water. Contact your local water treatment professional for selecting an appropriate treatment system.

## Comments continued on next page

# Water Analysis Report

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4477	Soil, Plant, and Water Laboratory
ŕ	Sample Address City of Monticello Feldspar	Received: Apr 27, 2017 Completed: May 9, 2017	2400 College Station Road Athens, GA 30602
	Malone Lake	Printed: May 9, 2017 Tests: W33	ph: 706-542-5350
Type: Household Well			e-mail: soiltest@uga.edu

#### d Manganese (Mn)

The concentration of manganese in this sample exceeds EPA's secondary maximum contaminant level of 0.05 parts per million (ppm) for drinking water. Manganese does not pose a threat to health, but can cause bitter or metallic taste and dark brown or black stains in laundry and plumbing fixtures. Water treatment is recommended only if these particular symptoms are causing a problem.

An ion-exchange water softener can be used to remove up to 5.0 ppm combined manganese and iron, but is not normally used unless water softening is also desired. Any oxidized manganese and/or iron should be removed by filtration ahead of the water softener.

An oxidizing filter may be used to remove up to 10.0 ppm combined manganese and iron. To work properly, some oxidizing filters require the pH of the water to be above 7.0. If pH adjustment is required, this can be accomplished by a neutralizing tank or soda ash injection ahead of oxidizing filter.

If the combined concentrations of iron and manganese exceed 10.0 ppm, or if disinfection is also desired, removal can be accomplished by chlorination followed by filtration. If desired, the chlorine residual may be removed with an activated carbon filter.

#### <sup>e</sup> Turbidity

Under EPA surface water treatment rules, turbidity (cloudiness of water) should not go above 5 nephelometric units (NTU). Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of microorganisms such as bacteria, viruses, and parasites.

All parameters tested are within the permissible limits established for drinking water.



College of Agricultural and Environmental Sciences

Cooperative Extension

Sender:

Greene's Water Well

City Of Monticello

SAMPLE #

**DESCRIPTION** 

**ANALYSIS** 

LEVEL

DETECTABILITY

LIMIT

**ASL 910** 

Lake Water L1

**CYANIDE** 

ND

20 ppB

Distilled: 04/27/2017

Colormetric: 04/28/2017 & 05/08/2017

N.D. = NOT DETECTABLE AT LIMIT INDICATED

ANALYST

Dr. Teresita Ona



2400 College Station Road Athens, Georgia 30602-9105

Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4478	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Malone Lake L-4	Malone Lake	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

#### Results continued

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 35 ppm (2.0 gr/gal) - Slightly Hard Water -

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	92 ppm	500 ppm (S)			
Turbidity	5.2 NTU <sup>b</sup>	5 NTU (P)			
Zinc (Zn)	negligible	5.0 ppm (S)			

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm: Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE: This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

# Comments are listed on the next page

Learning for Life

# Water Analysis Report

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4478	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
ample: Malone Lake L-4 Malone	Malone Lake	Printed: May 9, 2017 Tests: W33	ph: 706-542-5350
Type: Household Well			e-mail: soiltest@uga.edu

#### <sup>a</sup> Conductivity

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens ( $\mu$ S) or micro-mhos ( $\mu$ mhos) per centimeter ( $\mu$ S/cm =  $\mu$ mhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3  $\mu$ S/cm and most drinking water in the United States ranges from 50 to 1500  $\mu$ S/cm.

#### <sup>b</sup> Turbidity

Under EPA surface water treatment rules, turbidity (cloudiness of water) should not go above 5 nephelometric units (NTU). Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of microorganisms such as bacteria, viruses, and parasites.

All parameters tested are within the permissible limits established for drinking water.



College of Agricultural and Environmental Sciences Cooperative Extension

Sender:

Greene's Water Well

City Of Monticello

SAMPLE # DESCRIPTION ANALYSIS LEVEL LIMIT

**ASL 911** 

Lake Water L2

CYANIDE

ND

20 ppB

Distilled: 04/27/2017

Colormetric: 04/28/2017 & 05/08/2017

N.D. = NOT DETECTABLE AT LIMIT INDICATED

ANALYST

Dr. Teresita Ona



College of Agricultural and Environmental Sciences

Cooperative Extension

Sender:

Greene's Water Well

City Of Monticello

SAMPLE # DESCRIPTION ANALYSIS LEVEL LIMIT

**ASL 912** 

Lake Water L3

**CYANIDE** 

ND

20 ppB

Distilled: 04/27/2017

Colormetric: 04/28/2017 & 05/08/2017

N.D. = NOT DETECTABLE AT LIMIT INDICATED

ANALYST

Dr. Teresita Ona



College of Agricultural and Environmental Sciences

Conperative Extension

Sender:

Greene's Water Well

City Of Monticello

SAMPLE#

DESCRIPTION

**ANALYSIS** 

LEVEL

DETECTABILITY LIMIT

ASL 913

Lake Water L4

**CYANIDE** 

ND

20 ppB

Distilled: 04/27/2017

Colormetric: 04/28/2017 & 05/08/2017

N.D. = NOT DETECTABLE AT LIMIT INDICATED

ANALYST

Parailla C Wax Dr. Teresita Ona



2400 College Station Road Athens, Georgia 30602-9105

Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4470	Soil, Plant, and Water Laboratory
•	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #2	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

### Results

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 246 ppm (14.4 gr/gal) - Very Hard Water a

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Alkalinity	148 ppm		Magnesium (Mg)	8.1 ppm	No Set Maximum
Aluminum (Al)	negligible	0.2 ppm (S)	Manganese (Mn)	0.08 ppm <sup>c</sup>	0.05 ppm (S)
Boron (B)	negligible	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum
Calcium (Ca)	85.2 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum
Carbon Dioxide (CO <sub>2</sub> )	4.10 ppm		Nitrate+Nitrite as N	negligible	10.0 ppm (P)
Chloride (Cl)	4.49 ppm	250 ppm (S)	Nitrate-Nitrogen (NO <sub>3</sub> <sup>-</sup> -N)	negligible	10.0 ppm (P)
Chromium (Cr)	negligible	0.1 ppm (P)			
Color	negligible	15 Units (S)	Nitrite-Nitrogen	- velicible	1.0 mm (D)
Conductivity (Specific	and of h		(NO <sub>2</sub> N)	negligible	1.0 ppm (P)
Conductance @ 25°C)	555 μS/cm <sup>b</sup> (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible	
6 (6)		1.0 ppm (S)	Phosphorus (P)	negligible	No Set Maximum
Copper (Cu)	negligible	1.3 ppm (P)	Potassium (K)	4.6 ppm	No Set Maximum
Fluoride (F)	4	2.0 ppm (S)	Silica (SiO <sub>2</sub> )	44.06 ppm	No Set Maximum
	negligible	4.0 ppm (P)	Sodium (Na)	14.4 ppm	No Set Maximum
Iron (Fe)	negligible	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	125.48 ppm	250 ppm (S)

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm:

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE:

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

## Report continued on next page



2400 College Station Road Athens, Georgia 30602-9105

Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4470	Soil, Plant, and Water Laboratory
•	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #2	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

## **Results continued**

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 246 ppm (14.4 gr/gal) - Very Hard Water <sup>a</sup>

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	439 ppm	500 ppm (S)			
Turbidity	0.6 NTU	5 NTU (P)			
Zinc (Zn)	negligible	5.0 ppm (S)			
			·		

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm:

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE:

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

## Comments are listed on the next page

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4470	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #2	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

### a Hardness

The calculated hardness of this water sample exceeds 120 parts per million (ppm). The water is, therefore, considered hard. Water hardness is related to the amount of calcium, magnesium and other minerals in the water. Hard water does not pose a threat to health, but it can cause scale formation in pots, water pipes and water heaters. It can also interfere with the cleaning action of soaps and detergents, forming film on skin, clothing and fixtures.

Water can be softened by installing an ion-exchange water softener which removes calcium, magnesium, etc. by exchanging them for sodium. Drinking softened water may not be recommended for individuals on sodium restricted diet because of the increased sodium concentrations.

### <sup>b</sup> Conductivity

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens ( $\mu$ S) or micro-mhos ( $\mu$ mhos) per centimeter ( $\mu$ S/cm =  $\mu$ mhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3  $\mu$ S/cm and most drinking water in the United States ranges from 50 to 1500  $\mu$ S/cm.

### <sup>c</sup> Manganese (Mn)

The concentration of manganese in this sample exceeds EPA's secondary maximum contaminant level of 0.05 parts per million (ppm) for drinking water. Manganese does not pose a threat to health, but can cause bitter or metallic taste and dark brown or black stains in laundry and plumbing fixtures. Water treatment is recommended only if these particular symptoms are causing a problem.

An ion-exchange water softener can be used to remove up to 5.0 ppm combined manganese and iron, but is not normally used unless water softening is also desired. Any oxidized manganese and/or iron should be removed by filtration ahead of the water softener.

An oxidizing filter may be used to remove up to 10.0 ppm combined manganese and iron. To work properly, some oxidizing filters require the pH of the water to be above 7.0. If pH adjustment is required, this can be accomplished by a neutralizing tank or soda ash injection ahead of oxidizing filter.

If the combined concentrations of iron and manganese exceed 10.0 ppm, or if disinfection is also desired, removal can be accomplished by chlorination followed by filtration. If desired, the chlorine residual may be removed with an activated carbon filter.



## Soil, Plant, and Water Laboratory

2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

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# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4471	Soil, Plant, and Water Laboratory
•	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #1	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

## Results

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 242 ppm (14.2 gr/gal) - Very Hard Water <sup>a</sup>

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Alkalinity	127 ppm		Magnesium (Mg)	6.7 ppm	No Set Maximum
Aluminum (Al)	negligible	0.2 ppm (S)	Manganese (Mn)	0.05 ppm	0.05 ppm (S)
Boron (B)	negligible	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum
Calcium (Ca)	85.9 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum
Carbon Dioxide (CO <sub>2</sub> )	3.20 ppm		Nitrate+Nitrite as N	negligible	10.0 ppm (P)
Chloride (Cl)	3.52 ppm	250 ppm (S)	Nitrate-Nitrogen (NO <sub>3</sub> <sup>-</sup> -N)	negligible	10.0 ppm (P)
Chromium (Cr)	negligible	0.1 ppm (P)			
Color	negligible	15 Units (S)	Nitrite-Nitrogen	nagligible	1 () nnm (D)
Conductivity (Specific	542G/ b		(NO <sub>2</sub> N)	negligible	1.0 ppm (P)
Conductance @ 25°C)	543 μS/cm <sup>b</sup> (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible	
C (C)	11.11	1.0 ppm (S)	Phosphorus (P)	negligible	No Set Maximum
Copper (Cu)	negligible	1.3 ppm (P)	Potassium (K)	4.2 ppm	No Set Maximum
Fluoride (F)		2.0 ppm (S)	Silica (SiO <sub>2</sub> )	40.04 ppm	No Set Maximum
	negligible	4.0 ppm (P)	Sodium (Na)	13.8 ppm	No Set Maximum
Iron (Fe)	negligible	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	136.90 ppm	250 ppm (S)

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in ppm:

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE: This test does not imply that this water is safe from bacteria or other chemicals that may be present. If you have concerns in these areas, contact your County Extension Agent.

## Report continued on next page



2400 College Station Road Athens, Georgia 30602-9105

Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4471	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #1	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

## **Results continued**

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 242 ppm (14.2 gr/gal) - Very Hard Water <sup>a</sup>

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	382 ppm	500 ppm (S)			
Turbidity	0.6 NTU	5 NTU (P)			
Zinc (Zn)	negligible	5.0 ppm (S)			
	·				

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm:

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE:

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

## Comments are listed on the next page

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4471	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017 Completed: May 9, 2017	2400 College Station Road Athens, GA 30602
Sample: Feldspar Well #1	City of Monticello Feldspar Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

### a Hardness

The calculated hardness of this water sample exceeds 120 parts per million (ppm). The water is, therefore, considered hard. Water hardness is related to the amount of calcium, magnesium and other minerals in the water. Hard water does not pose a threat to health, but it can cause scale formation in pots, water pipes and water heaters. It can also interfere with the cleaning action of soaps and detergents, forming film on skin, clothing and fixtures.

Water can be softened by installing an ion-exchange water softener which removes calcium, magnesium, etc. by exchanging them for sodium. Drinking softened water may not be recommended for individuals on sodium restricted diet because of the increased sodium concentrations.

### <sup>b</sup> Conductivity

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens ( $\mu$ S) or micro-mhos ( $\mu$ mhos) per centimeter ( $\mu$ S/cm =  $\mu$ mhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3  $\mu$ S/cm and most drinking water in the United States ranges from 50 to 1500  $\mu$ S/cm.



## Soil, Plant, and Water Laboratory

2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4472	Soil, Plant, and Water Laboratory
	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #5	Groundwater Wells	Printed: May 9, 2017 Tests: W33	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

### Results

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 234 ppm (13.7 gr/gal) - Very Hard Water <sup>a</sup>

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Alkalinity	144 ppm		Magnesium (Mg)	7.6 ppm	No Set Maximum
Aluminum (Al)	negligible	0.2 ppm (S)	Manganese (Mn)	0.05 ppm	0.05 ppm (S)
Boron (B)	negligible	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum
Calcium (Ca)	81.2 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum
Carbon Dioxide (CO <sub>2</sub> )	3.54 ppm	, and the second	Nitrate+Nitrite as N	negligible	10.0 ppm (P)
Chloride (Cl)	2.70 ppm	250 ppm (S)	Nitrate-Nitrogen (NO <sub>3</sub> N)	negligible	10.0 ppm (P)
Chromium (Cr)	negligible	0.1 ppm (P)			
Color	1 units	15 Units (S)	Nitrite-Nitrogen		1.0 mm (D)
Conductivity (Specific	sio or b		(NO <sub>2</sub> N)	negligible	1.0 ppm (P)
Conductance @ 25°C)	518 μS/cm <sup>b</sup> (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible	
0 (0)		1.0 ppm (S)	Phosphorus (P)	negligible	No Set Maximum
Copper (Cu)	negligible	1.3 ppm (P)	Potassium (K)	4.1 ppm	No Set Maximum
Fluoride (F)	1, 1, 1	2.0 ppm (S)	Silica (SiO <sub>2</sub> )	36.85 ppm	No Set Maximum
	negligible	4.0 ppm (P)	Sodium (Na)	13.9 ppm	No Set Maximum
Iron (Fe)	0.11 ppm	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	112.24 ppm	250 ppm (S)

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in ppm:

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If NOTE: you have concerns in these areas, contact your County Extension Agent.

Report continued on next page



### Soil, Plant, and Water Laboratory

2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

(CEC/CEA Signature)

Sample ID

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Client Information		Lab Information	Contact	١
Greene's Water Wells, Inc.		Lab #4472	Soil, Plant, and Water Laboratory	ĺ
,	Sample Address	Received: Apr 27, 2017	2400 College Station Road	
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602	
Sample: Feldspar Well #5	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350	
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu	

Water Analysis Report

### Results continued

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 234 ppm (13.7 gr/gal) - Very Hard Water <sup>a</sup>

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	368 ppm	500 ppm (S)			
Turbidity	1.8 NTU	5 NTU (P)			
Zinc (Zn)	negligible	5.0 ppm (S)			

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm:

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE:

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

Comments are listed on the next page

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4472	Soil, Plant, and Water Laboratory
·	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #5	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

### <sup>a</sup> Hardness

The calculated hardness of this water sample exceeds 120 parts per million (ppm). The water is, therefore, considered hard. Water hardness is related to the amount of calcium, magnesium and other minerals in the water. Hard water does not pose a threat to health, but it can cause scale formation in pots, water pipes and water heaters. It can also interfere with the cleaning action of soaps and detergents, forming film on skin, clothing and fixtures.

Water can be softened by installing an ion-exchange water softener which removes calcium, magnesium, etc. by exchanging them for sodium. Drinking softened water may not be recommended for individuals on sodium restricted diet because of the increased sodium concentrations.

## b Conductivity

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens ( $\mu$ S) or micro-mhos ( $\mu$ mhos) per centimeter ( $\mu$ S/cm =  $\mu$ mhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3  $\mu$ S/cm and most drinking water in the United States ranges from 50 to 1500  $\mu$ S/cm.



### Soil, Plant, and Water Laboratory

2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4473	Soil, Plant, and Water Laboratory
,	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #3	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

### **Results**

pH: 7.6 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 173 ppm (10.1 gr/gal) - Hard Water <sup>a</sup>

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Alkalinity	141 ppm		Magnesium (Mg)	4.6 ppm	No Set Maximum
Aluminum (Al)	negligible	0.2 ppm (S)	Manganese (Mn)	0.10 ppm <sup>c</sup>	0.05 ppm (S)
Boron (B)	negligible	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum
Calcium (Ca)	61.9 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum
Carbon Dioxide (CO <sub>2</sub> )	7.09 ppm		Nitrate+Nitrite as N	negligible	10.0 ppm (P)
Chloride (Cl)	1.97 ppm	250 ppm (S)	Nitrate-Nitrogen	li-ible	10.0 mm (P)
Chromium (Cr)	negligible	0.1 ppm (P)	(NO <sub>3</sub> N)	negligible	10.0 ppm (P)
Color	negligible	15 Units (S)	Nitrite-Nitrogen	nagligible	1.0 nnm (P)
Conductivity (Specific	276 G/ b	and the second section of the section of t	(NO <sub>2</sub> -N)	negligible	1.0 ppm (P)
Conductance @ 25°C)	376 μS/cm <sup>b</sup> (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible	
6 (6)		1.0 ppm (S)	Phosphorus (P)	0.03 ppm	No Set Maximum
Copper (Cu)	negligible	1.3 ppm (P)	Potassium (K)	3.6 ppm	No Set Maximum
		2.0 ppm (S) 4.0 ppm (P)	Silica (SiO <sub>2</sub> )	37.69 ppm	No Set Maximum
Fluoride (F)	negligible		Sodium (Na)	8.8 ppm	No Set Maximum
Iron (Fe)	0.16 ppm	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	43.24 ppm	250 ppm (S)

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm: Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE: This test does not imply that this water is safe from bacteria or other chemicals that may be present. If you have concerns in these areas, contact your County Extension Agent.

Report continued on next page



Athens Georgia 30602-910

2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

Soil, Plant, and Water Laboratory

# Water Analysis Report

Sample ID

(CEC/CEA Signature)

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4473	Soil, Plant, and Water Laboratory
	Sample Address City of Monticello Feldspar	Received: Apr 27, 2017 Completed: May 9, 2017	2400 College Station Road Athens, GA 30602
Sample: Feldspar Well #3	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

## **Results continued**

pH: 7.6 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 173 ppm (10.1 gr/gal) - Hard Water a

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	271 ppm	500 ppm (S)			
Turbidity	5.0 NTU	5 NTU (P)			
Zinc (Zn)	negligible	5.0 ppm (S)			

<sup>\*</sup> The letter (P) beside an EPA Maximum Level indicates that EPA has established a primary drinking water standard for this parameter. These are parameters which have been shown to cause adverse health effects. The letter (S) indicates that EPA has established a secondary drinking water standard for this parameter. These parameters are not generally considered threats to health, but can cause nuisance problems such as staining, tastes or odors.

ppm:

Stands for parts per million. One part per million is equivalent to 1 pound of an element dissolved in

1,000,000 pounds of water. One part per million is the same as one milligram per liter (mg/L).

NOTE:

This test does not imply that this water is safe from bacteria or other chemicals that may be present. If

you have concerns in these areas, contact your County Extension Agent.

### Comments are listed on the next page

Sample ID

Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4473	Soil, Plant, and Water Laboratory
Sample: Feldspar Well #3 Type: Household Well	Sample Address City of Monticello Feldspar Groundwater Wells	Received: Apr 27, 2017 Completed: May 9, 2017 Printed: May 9, 2017 Tests: W33	2400 College Station Road Athens, GA 30602 ph: 706-542-5350 e-mail: soiltest@uga.edu

### a Hardness

The calculated hardness of this water sample exceeds 120 parts per million (ppm). The water is, therefore, considered hard. Water hardness is related to the amount of calcium, magnesium and other minerals in the water. Hard water does not pose a threat to health, but it can cause scale formation in pots, water pipes and water heaters. It can also interfere with the cleaning action of soaps and detergents, forming film on skin, clothing and fixtures.

Water can be softened by installing an ion-exchange water softener which removes calcium, magnesium, etc. by exchanging them for sodium. Drinking softened water may not be recommended for individuals on sodium restricted diet because of the increased sodium concentrations.

### b Conductivity

Conductivity is the measure of the ability of the water to conduct electricity. The units for conductivity are usually expressed either as micro-Siemens ( $\mu$ S) or micro-mhos ( $\mu$ mhos) per centimeter ( $\mu$ S/cm =  $\mu$ mhos/cm). Conductivity increases as the amount of dissolved ionic solids increases and is sometimes called "soluble salts". Dissolved inorganic compounds are relatively good conductors; conversely, dissolved organic compounds are poor conductors. The conductivity of distilled water usually ranges from 0.5 to 3  $\mu$ S/cm and most drinking water in the United States ranges from 50 to 1500  $\mu$ S/cm.

### <sup>c</sup> Manganese (Mn)

The concentration of manganese in this sample exceeds EPA's secondary maximum contaminant level of 0.05 parts per million (ppm) for drinking water. Manganese does not pose a threat to health, but can cause bitter or metallic taste and dark brown or black stains in laundry and plumbing fixtures. Water treatment is recommended only if these particular symptoms are causing a problem.

An ion-exchange water softener can be used to remove up to 5.0 ppm combined manganese and iron, but is not normally used unless water softening is also desired. Any oxidized manganese and/or iron should be removed by filtration ahead of the water softener.

An oxidizing filter may be used to remove up to 10.0 ppm combined manganese and iron. To work properly, some oxidizing filters require the pH of the water to be above 7.0. If pH adjustment is required, this can be accomplished by a neutralizing tank or soda ash injection ahead of oxidizing filter.

If the combined concentrations of iron and manganese exceed 10.0 ppm, or if disinfection is also desired, removal can be accomplished by chlorination followed by filtration. If desired, the chlorine residual may be removed with an activated carbon filter.



2400 College Station Road Athens, Georgia 30602-9105

Website: http://aesl.ces.uga.edu

# Water Analysis Report

Sample ID

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Client Information		Lab Information	Contact
Greene's Water Wells, Inc.		Lab #4474	Soil, Plant, and Water Laboratory
,	Sample Address	Received: Apr 27, 2017	2400 College Station Road
	City of Monticello Feldspar	Completed: May 9, 2017	Athens, GA 30602
Sample: Feldspar Well #4	Groundwater Wells	Printed: May 9, 2017	ph: 706-542-5350
Type: Household Well		Tests: W33	e-mail: soiltest@uga.edu

### Results

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 167 ppm (9.8 gr/gal) - Hard Water <sup>a</sup>

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Alkalinity	115 ppm		Magnesium (Mg)	5.5 ppm	No Set Maximum
Aluminum (Al)	negligible	0.2 ppm (S)	Manganese (Mn)	negligible	0.05 ppm (S)
Boron (B)	negligible	No Set Maximum	Molybdenum (Mo)	negligible	No Set Maximum
Calcium (Ca)	57.9 ppm	No Set Maximum	Nickel (Ni)	negligible	No Set Maximum
Carbon Dioxide (CO <sub>2</sub> )	2.90 ppm		Nitrate+Nitrite as N	negligible	10.0 ppm (P)
Chloride (Cl)	2.34 ppm	250 ppm (S)	Nitrate-Nitrogen (NO <sub>3</sub> <sup>-</sup> -N)	negligible	10.0 ppm (P)
Chromium (Cr)	negligible	0.1 ppm (P)			
Color	1 units	15 Units (S)	Nitrite-Nitrogen	li-iblo	1.0 ppm (P)
Conductivity (Specific	ana ay h		(NO <sub>2</sub> N)	negligible	1.0 ppin (1)
Conductance @ 25°C)	$382 \mu \text{S/cm}^{\text{b}}$ (μS/cm = μmhos/cm)		Phosphate (PO <sub>4</sub> )	negligible	
	, , , , , , , , , , , , , , , , , , , ,	1.0 ppm (S)	Phosphorus (P)	0.03 ppm	No Set Maximum
Copper (Cu)	negligible	1.3 ppm (P)	Potassium (K)	3.6 ppm	No Set Maximum
		2.0 ppm (S)	Silica (SiO <sub>2</sub> )	39.98 ppm	No Set Maximum
Fluoride (F)	negligible	4.0 ppm (P)	Sodium (Na)	10.9 ppm	No Set Maximum
Iron (Fe)	0.28 ppm	0.30 ppm (S)	Sulfate (SO <sub>4</sub> )	65.52 ppm	250 ppm (S)

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## Report continued on next page



2400 College Station Road Athens, Georgia 30602-9105 Website: http://aesl.ces.uga.edu

# Water Analysis Report

(CEC/CEA Signature)

Client Information
Greene's Water Wells, Inc.

Sample ID

Type:

Sample Address

City of Monticello Feldspar

Groundwater Wells

**Lab Information**Lab #4474

Received: Apr 27, 2017 Completed: May 9, 2017 Printed: May 9, 2017

Tests: W33

Contact
Soil, Plant, and Water Laboratory

2400 College Station Road Athens, GA 30602

ph: 706-542-5350 e-mail: soiltest@uga.edu

**Results continued** 

Sample: Feldspar Well #4

Household Well

pH: 7.9 (Desired pH range 6.5 to 8.5)

Calculated Hardness: 167 ppm (9.8 gr/gal) - Hard Water a

(Water hardness is due to the presence of certain dissolved minerals, primarily calcium and magnesium.)

Parameter	Concentration in Sample	EPA Maximum Level*	Parameter	Concentration in Sample	EPA Maximum Level*
Total Dissolved Solids (TDS)	276 ppm	500 ppm (S)			
Turbidity	8.6 NTU°	5 NTU (P)			
Zinc (Zn)	0.05 ppm	5.0 ppm (S)			

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### <sup>c</sup> Turbidity

Under EPA surface water treatment rules, turbidity (cloudiness of water) should not go above 5 nephelometric units (NTU). Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of microorganisms such as bacteria, viruses, and parasites.