



9399 West Higgins Rd Ste  
1100  
Rosemont, IL, 60018

Phone: 877-889-8195  
Web: www.culligan.com

Report Date: 1/29/2020

## CERTIFICATE OF ANALYSIS

Page 1 of 8

### ANALYSIS NUMBER: 2000750 (Rev. A)

Culligan Water Services of Panama City, Florida  
315 East 15th Street  
Panama City, FL 32405

Customer: **ECONFINA SPRING WATER**  
**315 E. 15TH ST**  
**PANAMA CITY FL, 32405**

Control Number: 89337

Account Number: 10005264

Collected By: JAY T.

Misc:

cc:

### SAMPLE INFORMATION:

Analysis Type Requested: Standard A Analysis

Sampled: 1/22/2020 at 9:30 AM

Supply/Source: Private Well

Condition:

Received: 1/24/2020 at 12:00 PM

Sampling Point: Other From Bottle

Application:

### ANALYSIS INFORMATION:

Turbidity (180.1 Rev. 2 1993):	0.23 NTU	Turbidity after filtration:	NM
Conductivity (120.1):	128.10 microS/cm	Est. TDS by Conductivity:	81.77
Color* (SM2120C, 21Ed):	<5.00 color	Color after Acidification*:	NM
pH* (150.1):	7.7	Tannins:	<2.00 mg/L

Concentrations reported as mg/L (PPM) unless otherwise indicated

#### CATIONS (Method 200.7 Rev 4.4)

	As Element	As CaCO3
Calcium* (Ca)	18.73	46.83
Magnesium* (Mg)	3.13	12.90
Sodium* (Na)	2.01	4.38
Potassium (K)	0.39	0.50
Strontium (Sr)	<0.05	
Barium* (Ba) [ppb]	<10.00	
Iron* (Fe)	<0.05	
Manganese* (Mn)	<0.02	
Copper* (Cu)	<0.003	
Zinc* (Zn)	<0.05	

#### ANIONS (Method 300.0)

	As Element	As CaCO3
Chloride* (Cl)	3.24	4.57
Nitrate As N* (NO3)	0.21	0.75
Nitrite As N* (NO2)	<0.10	0.00
Sulfate* (SO4)	<3.00	<3.12
Fluoride* (F)	<0.20	<0.26

#### ANIONS (Method SM3220)

Total Alkalinity*	66.91	54.87
Bicarbonate	66.91	54.87
Carbonate	0.00	0.00

#### ANIONS (Method 200.7 Rev 4.4)

Silica* (SiO2)	4.91
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	Mg/L	GPG		Mg/L	GPG		Mg/L	GPG
Cations (CaCO3)	64.61	3.78	Anions (CaCO3)	62.43	3.65	Hardness* (CaCO3)	59.73	3.49

#### Additional Tests

Aluminum by ICP\* ND ug/L

Arsenic by ICP (Screen) ND ug/L

Lead by ICP (Screen) ND ug/L

NA = Not Analyzed    NM = Not Measured    ND = Not Detected    \* = NELAP accredited parameter    CFU/ml = Colony Forming Unit per Milliliter

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NELAP Certifications: IL-100213; PA-68-04623; NY-11756; TX-TX269-2007A

Maria Mozdzen

State Certifications: IL-IDPH-17598; CA-2958; MT-CERT0091; IA-369;

Analytical Lab Manager

VT-02199; WI-105-10119; CO-IL100213; MI-9988; MO-1060

Analysis Number: **2000750 (Rev. A)**

Consumer:

FEDERAL SAFE DRINKING WATER ACT

All tested parameters exceeding the maximum concentration levels (MCL) established under the "Federal Safe Drinking Water Act"

<u>Parameter</u>	<u>Found</u>	<u>MCL</u>
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\* MCL for Turbidity varies as follows:

- |                                |         |
|--------------------------------|---------|
| 1. Municipal Direct Filtration | 0.5 NTU |
| 2. Municipal Sand Filtration   | 1.0 NTU |
| 3. Unfiltered Water Supply     | 5.0 NTU |

TYPICAL POST RO DRINKING WATER UNITS

(Concentrations reported as mg/L (PPM) as the element)

Calcium (Ca)	0.37	Sulfate (SO4)	0.04
Iron (Fe)	0.00	Magnesium (Mg)	0.06
Manganese (Mn)	0.00	Sodium (Na)	0.04
Zinc (Zn)	0.00	Potassium (K)	0.01
Copper (Cu)	0.00	Chloride (Cl)	0.16
Nitrate As N (NO3)	0.05	Fluoride (F)	0.00
Nitrite As N (NO3)	0.00		

These values are typical of new modules on water with a pH of 7-9 at 70-74 F with 500-3000 mg/L total salts operating with 40-70 PSI pressure across the module. Local conditions may yield different results.

DI CALCULATION FACTORS

			GPG	mg/L
Sodium	6.78%	Weak Base Fact X	0.39	6.66
Alkalinity	87.89%	Carbonic Acid	3.53	60.35
Chloride	68.62%	Cation Fact Y	3.78	64.61
Carbonic Acid	84.92%	Silica	4.07	83.96
Monovalent Ions	7.84%	Carbon Dioxide	0.16	2.74
Silica	7.24%	Strong Base Fact Z	3.97	67.84

Method	Date	Method	Date
120.1	1/28/2020	150.1	1/28/2020
180.1 Rev. 2 1993	1/28/2020	200.7 R4.4	1/28/2020
300.0 R2.1	1/28/2020	SM 5550	1/28/2020
SM2120C, 21Ed	1/28/2020	SM2120C,21Ed	1/28/2020
SM2320B, 18Ed	1/28/2020		

**pH** - the acid strength of water on a scale of 0 to 14 (neutral = pH 7.0). Values from 7→0 are increasingly more acidic; values from 7→14 are increasingly more alkaline. The recommended range for drinking water under the U.S. regulations is 6.5 to 8.5.

**Conductivity** - the relative ability of water to carry an electrical current, used to estimate the total concentration of dissolved ions.

**Turbidity** - cloudiness in water caused by the dispersion of light by extremely tiny particles. Measured on an arbitrary scale of Nephelometric Turbidity Units (NTUs). The mandatory maximum under U.S. regulations is 0.5 NTU. Turbidity Filtered is measured through 11 micron filter paper.

**Color** - the amount of brownish-yellow color from dissolved tannins from vegetation (like tea) and metals (like rust) and their combinations, measured on an arbitrary scale. The recommended maximum under U.S. regulations is 15 CU.

**Silica, SiO<sub>2</sub>** - a naturally occurring dissolved mineral, which produces a glassy scale in high temperature equipment but is more important in predicting the life of certain water treatment media.

**Hydrogen Sulfide, H<sub>2</sub>S** - a toxic, noxious, corrosive gas that smells like rotten eggs. Bacteria acting on sulfate or organic sulfur-containing materials in the absence of oxygen produce it. Only "special" water analyses can determine hydrogen sulfide levels.

**Total Hardness** - the sum of all metal ions which react with soap to inhibit sudsing and form "scum" or "bathtub ring" - mostly Calcium and Magnesium. When heated or evaporated, hard water can cause lime scale that can deposit on sink and shower fixtures and walls and result in loss in efficiency or fuel waste in water heaters, boilers, and cooling systems.

**Total Alkalinity** - the sum of hydroxide (OH<sup>-</sup>), carbonate (CO<sub>3</sub><sup>-2</sup>), and bicarbonate (HCO<sub>3</sub><sup>-</sup>) ions, which can combine with both acids and bases, which act to buffer water and prevent sudden uncontrolled changes in pH.

**Cations** - ions (atoms or molecules with an electrical charge) with a positive (+) electrical charge, so named because they go toward the cathode in an electric field. Besides the hardness ions, the main cations in water are sodium, Na<sup>+</sup>, and potassium, K<sup>+</sup>.

**Anions** - ions (atoms or molecules with an electrical charge) with a negative (-) electrical charge, so named because they go toward the anode in an electric field. The main anions in water are hydroxide (OH<sup>-</sup>), carbonate (CO<sub>3</sub><sup>-2</sup>), bicarbonate (HCO<sub>3</sub><sup>-</sup>) (which together comprise "alkalinity"), sulfate (SO<sub>4</sub><sup>-2</sup>), nitrate (NO<sub>3</sub><sup>-</sup>) and chloride (Cl<sup>-</sup>).

**Nitrate/Nitrite, NO<sub>3</sub><sup>-</sup>/NO<sub>2</sub><sup>-</sup>** - important because of toxicity to infants, nitrate comes from fertilizers and animal wastes. Water supplies with high nitrate levels should also be screened for agricultural pesticides and bacterial contamination. The mandatory limit under U.S. regulations is 10 mg/L.

**Sulfate, SO<sub>4</sub><sup>-2</sup>** - a common mineral component, only rarely occurring at excessive levels, which can cause a temporary diarrhea in visitors who have not become acclimated to it. Recommended U.S. limit, 250 mg/L.

**Fluoride, F<sup>-</sup>** - often added to water to inhibit tooth decay. Mandatory U.S. limits range from 4.0 mg/L in northern regions to 1.4 mg/L in southern regions (where more water is consumed).

**Chloride, Cl<sup>-</sup>** - a common mineral component, can be found in elevated levels near seawater and other salt supplies, which can cause taste problems and can contribute to corrosion. Recommended U.S. limit, 250 mg/L.

**Iron, Fe** - cause of metallic taste, rust stains on laundry and porcelain fixtures, and clogging/fouling of equipment. The recommended U.S. limit is 0.3 mg/L.

**Manganese, Mn** - cause of metallic taste and black stains on laundry and porcelain. Often occurs in combination with iron. The recommended U.S. limit is 0.05 mg/L Mn or a total of 0.3 mg/L of Fe + Mn.

**Copper, Cu** - cause of green stains on porcelain and fittings, seldom naturally-occurring, usually due to corrosion. The mandatory U.S. "action level" of 1.3 mg/L is tied to the regulation for lead contamination due to corrosion of plumbing materials.

**Zinc, Zn** - cause of metallic taste and upset stomach. Due to corrosion of galvanized plumbing materials. Recommended U.S. limit, 5.0 mg/L.

#### DETERMINATION OF POTENTIAL NUISANCE BACTERIA POPULATION (cfu/mL-colony-forming units per milliliter)

	Slime Forming Bacteria	Iron Related Bacteria	Sulfate Reducing Bacteria
Day 1	1,750,000-Aggressive	570,000-Aggressive	2,200,000-Aggressive
Day 2	440,000-Aggressive	140,000-Aggressive	500,000-Aggressive
Day 3	67,000-Aggressive	35,000-Aggressive	115,000-Aggressive
Day 4	13,000-Moderate	9,000-Aggressive	27,000-Aggressive
Day 5	2,500-Moderate	2,200-Moderate	6000-Aggressive
Day 6	500-Moderate	500-Moderate	1400-Moderate
Day 7	100-Not Aggressive	150-Moderate	325-Moderate
Day 8	0-None Present	25-Moderate	75-Moderate
Day 9		8-Not Aggressive	20-Not Aggressive
Day 10		0-None Present	5-Not Aggressive
Day 11			0-None Present

#### Units of Concentration used in this Report

gpg-abbreviation for "grains per gallon" calculated in terms of calcium carbonate equivalents. Multiply by 17.12 to convert gpg into either ppm or mg/L.

ppm-abbreviation for "parts per million." Interchangeable with mg/L.

mg/L-abbreviation for "milligrams per liter." Interchangeable with ppm. (There are one million milligrams in a liter of pure water).

ppb-abbreviation for "parts per billion." Interchangeable with µg/L or micrograms per liter.

µg/L-abbreviation for "micrograms per liter." Interchangeable with ppb. (There are a billion micrograms in a liter).

$$1000 \text{ ppb} = 1 \text{ ppm}; 1000 \text{ µg/L} = 1 \text{ mg/L}$$

THIS ANALYSIS WILL NOT DETERMINE WHETHER A WATER IS SAFE FOR HUMAN CONSUMPTION

CONTAMINANT	PRODUCT RECOMMENDATION
Alkalinity	Softener
Aluminum	Softener
Ammonia	Deionization, Filtration
Antimony	Ultra Filtration, Reverse Osmosis
Arsenic	Arsenic Filter
Arsenic +3	Arsenic Filter
Arsenic +5	Arsenic Filter
Barium	Softener
Beryllium	Reverse Osmosis, UF, Softener
Bromate	Activated Carbon
Cadmium	Reverse Osmosis, UF, Ion Exchange
Calcium	Softener
Chloride	Ion Exchange
Chromium	Reverse Osmosis
Color	Activated Carbon
Conductivity	Deionization
Copper	Reverse Osmosis, Softener
Fluoride	Reverse Osmosis
Hydrogen Sulfide	Aeration, Chemical Filtration
Iron	Aeration, Filtration
Iron Bacteria	Chlorine, UV, Ultrafiltration
Lead	Carbon Block, Faucet Filter
Magnesium	Softener
Manganese	Softener
Mercury	Carbon Block
Mod Susp Solids	Depth Filter, Particle Filter
Nitrate/Nitrite	Reverse Osmosis
pH	Calcite
Potassium	Softener
Selenium	Reverse Osmosis
Silica	Reverse Osmosis
Silver	Reverse Osmosis, Ion Exchange, Activated Carbon
Slime Forming Bacteria	Chlorine, UV, Ultrafiltration
Sodium	Reverse Osmosis
Solids (TDS, TSS, TS) each	Reverse Osmosis, Deionization
Strontium	No Reliable Treatment
Sulfate	Ion Exchange, Reverse Osmosis
Sulfate Bacteria	Chlorine, UV, Ultrafiltration
Tannins (if color is present)	Carbon Filter
Thallium	Reverse Osmosis, Cation Exchange
TOC	Carbon Filter
Total Coliform	Chlorine, UV, Ultrafiltration
Total Hardness	Softener
Total Phosphate	Particle Filter, Depth Filter, Reverse Osmosis
Uranium	Ion Exchange
Volitile Organic Compound	Carbon Filter
Zinc	Reverse Osmosis, Cation Exchange
	<p>Note: The product recommendations listed above are not guaranteed solutions for all applications. The client is solely responsible for proper system selection and application . Not all product recommendation may be used in all states.</p>

A



2000750

4337

Control Number: 89337

**SAMPLE ANALYSIS REQUEST**  
Culligan International Company Analytical Laboratory  
9399 W. Higgins Road Suite 1100  
Rosemont, IL 60018

**SAMPLE SUBMITTED BY:**

Account Number: 09500 5264  
Account Name: Culligan of Panama City FL  
Phone Number: 850-763-1721  
E-MAIL: jay.trumbull@culliganpc.com  
Person Taking Sample: Jay Trumbull  
Date Sample Taken: 1-23-2020 Time Sample Taken: 9:30 AM



**CUSTOMER INFORMATION:**

Customer Name: ELONENA SPRING WATER  
Address: 315 E 15th St.  
City: Panama City State: FL Zip: 32405  
Customer reported concern: \_\_\_\_\_

**SAMPLE INFORMATION:**

Water Supply: Private  Municipal \_\_\_\_\_  
Source: Surface \_\_\_\_\_ Well  Unknown \_\_\_\_\_  
Condition: Treated \_\_\_\_\_ Untreated \_\_\_\_\_  
Sample Point: Faucet \_\_\_\_\_ Equipment \_\_\_\_\_ Other from bottle  
Application: Household \_\_\_\_\_ Commercial \_\_\_\_\_ National Account \_\_\_\_\_  
Comments: \_\_\_\_\_

**ANALYSIS REQUESTED:**

Standard Analysis:  Scale Analysis: \_\_\_\_\_  
Standard w/TOC: \_\_\_\_\_ Resin Analysis: \_\_\_\_\_  
Hemodialysis Basic: \_\_\_\_\_ Depth Filter Analysis: \_\_\_\_\_  
Hemodialysis Complete: \_\_\_\_\_ Arsenic Filter \_\_\_\_\_  
Bacteria: Iron \_\_\_\_\_ Sulfate \_\_\_\_\_ Slime \_\_\_\_\_ VOC \_\_\_\_\_

Special Analysis: (List Analysis Requested): \_\_\_\_\_

For Questions contact Rick Cook at (847) 430-1284 or Maria Mozdzen at (847) 430-1219

**LAB USE ONLY:**

Sample received in acceptable condition: Yes \_\_\_\_\_ No \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
If not reason: \_\_\_\_\_  
Disposition of sample: \_\_\_\_\_

**Litigation samples are not accepted by the laboratory**

Customer: \_\_\_\_\_ Culligan International Company  
Please Sign: Jay Trumbull By: \_\_\_\_\_  
Please print your name: JAY TRUMBULL Its: \_\_\_\_\_



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### CERTIFICATE OF ANALYSIS

**Analysis Number: 2000750 (Rev. A)**

Culligan Water Services of Panama City, Florida  
315 East 15th Street  
Panama City, FL 32405

**Customer: ECONFINA SPRING WATER**  
**315 E. 15TH ST**  
**PANAMA CITY FL, 32405**

Control Number: 89337  
Account Number: 10005264  
Collected By: JAY T.

Misc:  
cc:

**SAMPLE INFORMATION:**

Analysis Type Requested: Standard A Analysis

<b>Sampled:</b> 1/22/2020	<b>Supply/Source:</b> Private Well	<b>Condition:</b>
<b>Received:</b> 1/24/2020	<b>Sampling Point:</b> Other From Bottle	<b>Application:</b>

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This Certificate of Analysis compares the actual test result to national standards as defined in the EPA 's Primary and Secondary Drinking Water Regulations .

**Primary Standards:** Are expressed as the maximum contaminant level (MCL) which is the highest level of contaminant that is allowed in drinking water. MCLs are enforceable standards.

**Secondary Standards:** Are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. Some states may choose to adopt that as enforceable standards.

**ug/L (ppb):** Unless otherwise indicated, results and standards are expressed as an amount in micrograms per liter or parts per billion.

**mg/L (ppm):** Unless otherwise indicated, results and standards are expressed as an amount in milligrams per liter or parts per million.

**Minimum Detection Level (MDL):** The lowest concentration level that the laboratory can detect a contaminant.

**ND:** The contaminant was not detected above the minimum detection level.

**NA:** The contaminant was not analyzed.

**\***: NELAP accredited parameter.

**Status**

































The contaminant was not detected in the sample above the minimum detection level.



The contaminant was detected below National Standard limit.



The contaminant was detected above National Standard limit.

<u>Status</u>	<u>Contaminant</u>	<u>Results</u>	<u>RDL</u>	<u>Units</u>	<u>Method</u>	<u>EPA Limit</u>	<u>Analysis Date/Time</u>
	Est TDS By Conductivity	81.77		mg/L		500.00	1/28/2020 at 10:29
	Conductivity	128.10		microS/cm	120.1		1/28/2020 at 10:02
	pH*	7.7			150.1	6.50 to 8.50	1/28/2020 at 9:07
	Turbidity	0.23	0.100	NTU	180.1 Rev. 2 1993	0.50	1/27/2020 at 8:53
	Turbidity Filtered	<0.100	0.100	NTU	180.1 Rev. 2 1993	0.50	1/27/2020 at 8:53
	Aluminum by ICP*	<50.000	50.000	ug/L	200.7 R4.4	200.00	1/28/2020 at 10:26
	Arsenic by ICP (Screen)	<10.000	10.000	ug/L	200.7 R4.4	10.00	1/28/2020 at 10:26
	Barium*	<10.000	10.000	ug/L	200.7 R4.4	2,000.00	1/28/2020 at 10:26
	Calcium*	18.73	0.100	mg/L	200.7 R4.4		1/28/2020 at 10:29
	Copper (Cu)*	<0.015	0.015	mg/L	200.7 R4.4	1.30	1/28/2020 at 10:26
	Hardness (CaCO3)*	59.73 3.49		mg/L GPG	200.7 R4.4		1/28/2020 at 10:29
	Iron (Fe)*	<0.050	0.050	mg/L	200.7 R4.4	0.30	1/28/2020 at 10:26
	Lead by ICP (Screen)	<15.000	15.000	ug/L	200.7 R4.4	15.00	1/28/2020 at 10:26
	Magnesium*	3.13	0.100	mg/L	200.7 R4.4		1/28/2020 at 10:29
	Manganese (Mn)*	<0.020	0.020	mg/L	200.7 R4.4	0.05	1/28/2020 at 10:26
	Potassium	0.39	0.100	mg/L	200.7 R4.4		1/28/2020 at 10:26
	Silica*	4.91	0.050	mg/L	200.7 R4.4		1/28/2020 at 10:29
	Sodium*	2.01	0.100	mg/L	200.7 R4.4		1/28/2020 at 10:26
	Strontium (Sr)	<0.050	0.050	mg/L	200.7 R4.4		1/28/2020 at 10:26
	Zinc (Zn)*	<0.050	0.050	mg/L	200.7 R4.4	5.00	1/28/2020 at 10:26
	Chloride*	3.24	0.500	mg/L	300.0 R2.1	250.00	1/27/2020 at 7:42
	Fluoride*	<0.200	0.200	mg/L	300.0 R2.1	4.00	1/27/2020 at 7:42
	Nitrate as N*	0.21	0.200	mg/L	300.0 R2.1	10.00	1/27/2020 at 7:42
	Nitrite as N*	<0.100	0.100	mg/L	300.0 R2.1	1.00	1/27/2020 at 7:42
	Sulfate*	<3.000	3.000	mg/L	300.0 R2.1	250.00	1/27/2020 at 7:42
	Tannins	<2.000	2.000	mg/L	SM 5550		1/28/2020 at 9:52
	Color*	<5.000	5.000	color	SM2120C, 21Ed	15.00	1/27/2020 at 15:34
	Color after Acidification	<5.000	5.000	color	SM2120C,21Ed		1/27/2020 at 15:34
	Bicarbonate	66.91		mg/L	SM2320B, 18Ed		1/28/2020 at 10:02
	Carbonate	0.00		mg/L	SM2320B, 18Ed		1/28/2020 at 10:02
	Total Alkalinity*	66.91		mg/L	SM2320B, 18Ed		1/28/2020 at 10:02

<u>Status</u>	<u>Contaminant</u>	<u>Results</u>	<u>RDL</u>	<u>Units</u>	<u>Method</u>	<u>EPA Limit</u>	<u>Analysis Date/Time</u>
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This analysis will not determine whether a water is safe for human consumption.

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VT-02199; WI-105-10119; CO-IL100213; MI-9988; MO-1060

Maria Mozdzen  
Analytical Lab Manager

