Climax Springs

Naturally Alkaline

Premium Spring Water

6311 Climax Road

Climax, KY 40460

606-256-4142

http://www.kingbottling.com

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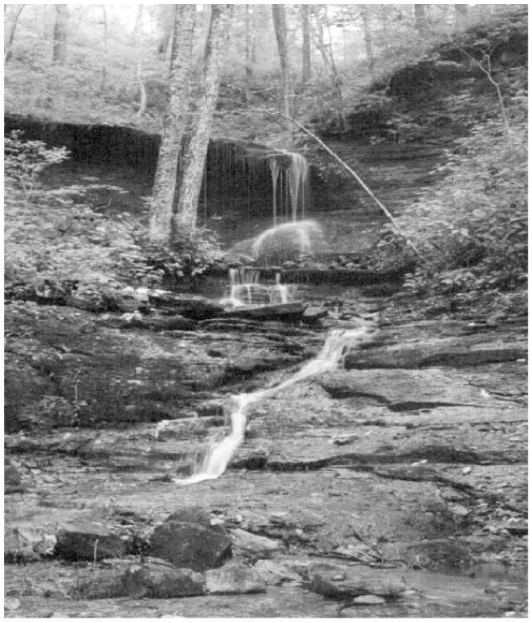
Embedded in a peaceful hillside in Rockcastle County, Kentucky, ***Climax Spring*** *defines natural beauty. The spring is a pure and natural fixture of the landscape surrounding it. The sun makes its way through the trees, forcing rays of light on the cool running water. The spring sparkles from the light of the sun as it flows down the stones that makes the water look as if it were walking down a winding staircase.*

Climax Springs is distinguished from its competitors in that:

- **History:** *Climax Springs* has a long history of supplying drinking water for families that lived near the spring. At the turn of the century, the spring was used to power a water wheel to grind corn into meal for the local residents. This mill stayed in operation until the 1950's. The old water wheel is presently used at Renfro Valley's Grist Mill.
- **Location:** *Climax Springs* is located in Rockcastle County, Kentucky, 9.6 miles from Interstate 75. State Route 1912 runs within 300 feet of the spring.
- **Protected Source:** *Climax Spring's* watershed is protected by thousand of acres of unspoiled national forest that lies within 500 feet of the mouth of the spring. This will ensure that the water from the spring will be pure and natural for many decades to come.
- **Volume:** *Climax Spring* has a tremendous volume of water that emits from its source. Estimates run from 158,000 gallons per day to 288,000 gallons per day flow.
- **Beauty:** *Climax Spring* discharges from the hillside with a 19-foot tall waterfall that defines beauty. The only spring known to have a picture beautiful enough that can be put on a label.
- **Great Taste:** In performing a certified taste test with 5 different bottled water brands testing 103 people, *Climax Spring* finished at the top of the list.
- **Test Results**: Climax Spring's test analysis can compete with any water on the market.

History

Climax Springs has a long history of supplying drinking water for families that lived near the spring. At the turn of the century, the spring was used to power a water wheel to grind corn into meal for the local residents. This mill stayed in operation until the 1950's. In the early 1990's the water wheel was moved to Renfro Valley Entertainment Center and install on their gristmill. The old log corncrib used by the mill still stands on the site today.

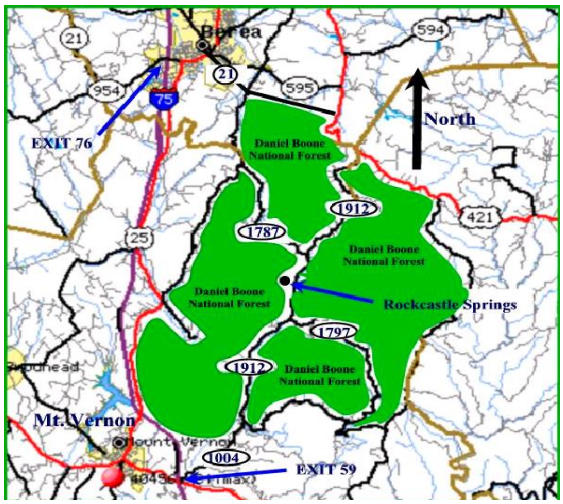


Location

The spring is conveniently located in Mid-America. The spring site is within 300 feet of State Route 1912. Interstate 75 can be accessed 9.6 miles to the North at Exit 75 or 9.5 miles to the South at Exit 59. The following metropolitan areas can be accessed with a short drive:

Lexington, KY	40 Miles	Nashville, TN	198 Miles
Louisville, KY	120 miles	Indianapolis, IN	241 Miles
Cincinnati, OH	132 Miles	Columbus, OH	241 Miles
Knoxville, TN	117 Miles	Huntington, WV	158 Miles

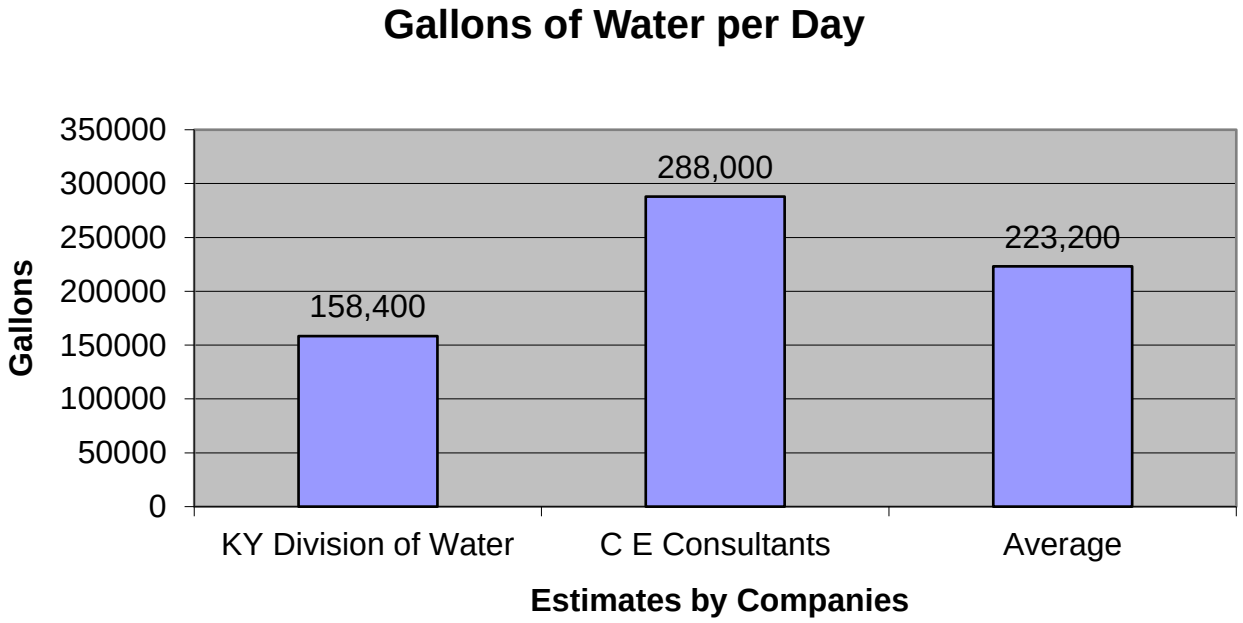
Protected Source:



One important factor to consider when looking for that perfect water is the protection of the spring's watershed for the future. *Climax Spring's* watershed is protected by thousands of acres of unspoiled Daniel Boone National Forest that lies within 500 feet of the mouth of the spring. This will ensure that the water from the spring will be pure and natural for many decades to come. The flow rates estimated by CE Consultants and Kentucky Division of Water indicate that the watershed area providing water to the spring is relatively large.

Volume:

Climax Spring has a tremendous volume of water that emits from its source. Estimates run from 158,000 gallons per day to 288,000 gallons per day flow.



Beauty: *Climax Spring* discharges from the hillside with a 19-foot tall waterfall that defines beauty. The only spring known to have a picture beautiful enough that can be put on a label.

MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

AARON B. KEATLEY
COMMISSIONER

100 SOWER BOULEVARD, STE. 104
FRANKFORT, KENTUCKY 40601

Tuesday, December 13, 2016

Lab Sample Number: AN03903
To: Division of Water
300 Sower Blvd
Frankfort, KY 40601
ATTN: David Jackson
County: Rockcastle
Collected By: Laura Norris
Delivered By: Laura Norris
Received By: Jennifer Clark
Sample Matrix: WATER
Sample Description: Fred Mullins Spring
Sample ID: 90001020

Station/Project ID:
Re: Groundwater Monitoring Network

Program Code: A39
AKGWA: 9000-1020
Facility:
Date: 11/15/2016 **Time:** 16:15
Date: 11/16/2016 **Time:** 09:20
Date: 11/16/2016 **Time:** 09:20
Collection Method: Grab
Sample Type: Field Sample
Container ID:
Shipment Temp: 0.2C

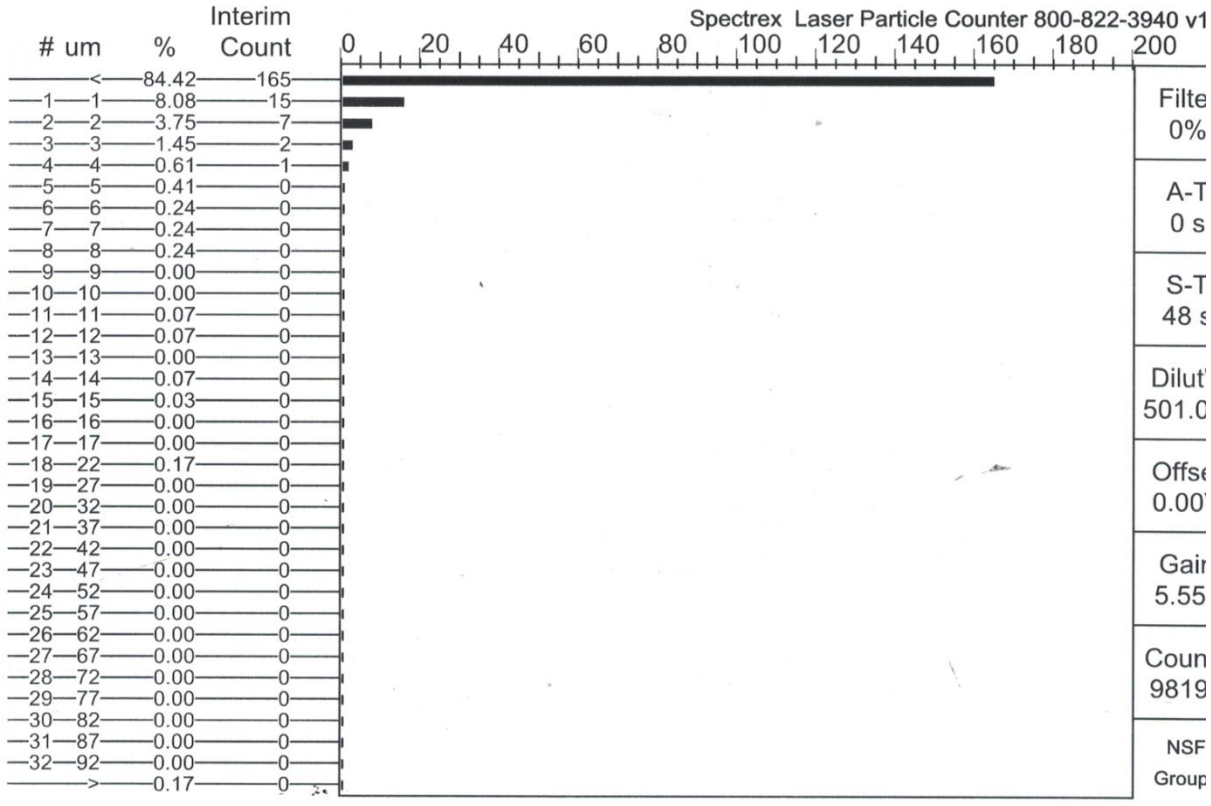
REPORT OF ANALYSIS

LAB ACODE	CAS NUM	CONSTITUENTS	RESULT	UNIT	LOQ	LOD	FLAG
TESTCODE 1020		*BY: SM20 2320 B* *ON: 11/18/2016 4:34:00 PM*					
1020		Alkalinity (as CaCO3)	84.0	mg/L	5.0	2.5	
TESTCODE 1030		*BY: SM20 2320 B* *ON: 11/18/2016 4:34:00 PM*					
1030		Alkalinity, Carbonate (as CaCO3)	Not detected	mg/L	5.0	2.5	U
TESTCODE 1040		*BY: SM20 2320 B* *ON: 11/18/2016 4:34:00 PM*					
1040		Alkalinity, Bicarbonate (as CaCO3)	84.0	mg/L	5.0	2.5	
TESTCODE 1145		*BY: EPA 120.1 (1982)* *ON: 11/21/2016 1:14:00 PM*					
1145		Conductivity	180	µmho/cm	5.0		
TESTCODE $1180_CALC		*BY: EPA 300.0 r2.1* *ON: 11/17/2016 12:28:00 AM*					
$1180 CALC	4959-67-9	Bromide	0.0150	mg/L	0.030	0.015	J
$1180 CALC	6887-00-6	Chloride	3.00	mg/L	0.60	0.30	
$1180 CALC	6984-48-8	Fluoride	0.0110	mg/L	0.030	0.010	J
$1180 CALC	4797-55-8	Nitrate (as N)	0.868	mg/L	0.030	0.010	
$1180 CALC	4797-65-0	Nitrite (as N)	Not detected	mg/L	0.030	0.015	U
$1180 CALC	4265-44-2	Orthophosphate (as P)	Not detected	mg/L	0.050	0.025	U
$1180 CALC	4808-79-8	Sulfate	1.30	mg/L	0.20	0.10	B
TESTCODE 1280		*BY: EPA 150.1 (1982)* *ON: 11/18/2016 4:34:00 PM*					
1280		pH	8.22	S.U.			T
TESTCODE 1320		*BY: SM20 2540 D* *ON: 11/16/2016 3:59:00 PM*					
1320		Solids, Total Suspended	2.00	mg/L	3.0	1.5	J
TESTCODE 1340D		*BY: SM20 2540 C* *ON: 11/17/2016 2:26:00 PM*					
1340D		Solids, Total Dissolved	92.0	mg/L	40	20	
TESTCODE 2260		*BY: SM20 5310 C* *ON: 11/22/2016 1:51:00 AM*					
2260	7440-44-0	Organic Carbon, Total	0.193	mg/L	0.25	0.10	J
TESTCODE 2000		*BY: EPA 350.1 r2* *ON: 11/21/2016 12:50:00 PM*					
2000	7664-41-7	Ammonia (as N)	Not detected	mg/L	0.050	0.025	U
TESTCODE 2280		*BY: EPA 351.2 r2* *ON: 11/21/2016 12:21:00 PM*					

LAB ACODE	CAS NUM	CONSTITUENTS	RESULT	UNIT	LOQ	LOD	FLAG
2280		Total Kjeldhal Nitrogen	Not detected	mg/L	0.50	0.20	U
TESTCODE 2200		*BY: EPA 365.1 r2*	*ON: 11/17/2016 9:57:00 AM*				
2200	7723-14-0	Phosphorus, Total	Not detected	mg/L	0.020	0.010	U
TESTCODE $3120_MINCALC		*BY: EPA 200.7 r4.4*	*ON: 11/22/2016 2:01:00 PM*				
$3120 MINCAL	7440-70-2	Calcium	33.4	mg/L	0.50	0.20	
$3120D MINCA	7440-70-2	Calcium, Dissolved	31.6	mg/L	0.50	0.20	
$3120 MINCAL	7439-89-6	Iron	Not detected	mg/L	0.050	0.020	U
$3120D MINCA	7439-89-6	Iron, Dissolved	Not detected	mg/L	0.050	0.020	U
$3120 MINCAL	7439-95-4	Magnesium	1.87	mg/L	0.50	0.20	
$3120D MINCA	7439-95-4	Magnesium, Dissolved	1.74	mg/L	0.50	0.20	
$3120 MINCAL	7440-09-7	Potassium	0.880	mg/L	1.0	0.50	J
$3120D MINCA	7440-09-7	Potassium, Dissolved	0.944	mg/L	1.0	0.50	J
$3120 MINCAL	7440-23-5	Sodium	1.60	mg/L	0.50	0.20	
$3120D MINCA	7440-23-5	Sodium, Dissolved	1.46	mg/L	0.50	0.20	
TESTCODE $3130_ALLCALC		*BY: EPA 200.8 r5.4*	*ON: 12/6/2016 7:28:00 PM*				
$3130 ALLCALC	7429-90-5	Aluminum	14.2	µg/L	5.0	2.0	
$3130D ALLCA	7429-90-5	Aluminum, Dissolved	Not detected	µg/L	5.0	2.0	U
$3130 ALLCALC	7440-36-0	Antimony	Not detected	µg/L	1.0	0.50	U
$3130D ALLCA	7440-36-0	Antimony, Dissolved	Not detected	µg/L	1.0	0.50	U
$3130 ALLCALC	7440-38-2	Arsenic	Not detected	µg/L	1.0	0.50	U
$3130D ALLCA	7440-38-2	Arsenic, Dissolved	Not detected	µg/L	1.0	0.50	U
$3130 ALLCALC	7440-39-3	Barium	19.8	µg/L	0.50	0.20	
$3130D ALLCA	7440-39-3	Barium, Dissolved	19.6	µg/L	0.50	0.20	
$3130 ALLCALC	7440-41-7	Beryllium	Not detected	µg/L	0.50	0.20	U
$3130D ALLCA	7440-41-7	Beryllium, Dissolved	Not detected	µg/L	0.50	0.20	U
$3130 ALLCALC	7440-43-9	Cadmium	Not detected	µg/L	0.50	0.20	U
$3130D ALLCA	7440-43-9	Cadmium, Dissolved	Not detected	µg/L	0.50	0.20	U
$3130 ALLCALC	7440-47-3	Chromium	0.480	µg/L	0.50	0.20	J
$3130D ALLCA	7440-47-3	Chromium, Dissolved	0.450	µg/L	0.50	0.20	J
$3130 ALLCALC	7440-48-4	Cobalt	Not detected	µg/L	0.50	0.20	U
$3130D ALLCA	7440-48-4	Cobalt, Dissolved	Not detected	µg/L	0.50	0.20	U
$3130 ALLCALC	7440-50-8	Copper	Not detected	µg/L	1.0	0.50	U
$3130D ALLCA	7440-50-8	Copper, Dissolved	Not detected	µg/L	1.0	0.50	U
$3130 ALLCALC	7439-92-1	Lead	Not detected	µg/L	0.50	0.20	U
$3130D ALLCA	7439-92-1	Lead, Dissolved	Not detected	µg/L	0.50	0.20	U
$3130 ALLCALC	7439-96-5	Manganese	0.830	µg/L	1.0	0.50	J
$3130D ALLCA	7439-96-5	Manganese, Dissolved	0.500	µg/L	1.0	0.50	J
$3130 ALLCALC	7439-98-7	Molybdenum	Not detected	µg/L	1.0	0.50	U
$3130D ALLCA	7439-98-7	Molybdenum, Dissolved	Not detected	µg/L	1.0	0.50	U
$3130 ALLCALC	7440-02-0	Nickel	Not detected	µg/L	1.0	0.50	U
$3130D ALLCA	7440-02-0	Nickel, Dissolved	Not detected	µg/L	1.0	0.50	U
$3130 ALLCALC	7782-49-2	Selenium	0.360	µg/L	0.50	0.20	J
$3130D ALLCA	7782-49-2	Selenium, Dissolved	0.200	µg/L	0.50	0.20	J
$3130 ALLCALC	7440-22-4	Silver	Not detected	µg/L	0.50	0.20	U
$3130D ALLCA	7440-22-4	Silver, Dissolved	Not detected	µg/L	0.50	0.20	U
$3130 ALLCALC	7440-28-0	Thallium	Not detected	µg/L	1.0	0.50	U
$3130D ALLCA	7440-28-0	Thallium, Dissolved	Not detected	µg/L	1.0	0.50	U
$3130 ALLCALC	7440-62-2	Vanadium	Not detected	µg/L	0.50	0.20	U
$3130D ALLCA	7440-62-2	Vanadium, Dissolved	Not detected	µg/L	0.50	0.20	U
$3130 ALLCALC	7440-66-6	Zinc	Not detected	µg/L	5.0	2.0	U
$3130D ALLCA	7440-66-6	Zinc, Dissolved	Not detected	µg/L	5.0	2.0	U
TESTCODE 3340_CALC		*BY: EPA 245.1 r3*	*ON: 11/28/2016 2:32:00 PM*				
3340 CALC	7439-97-6	Mercury	Not detected	µg/L	0.050	0.020	U
3340D	7439-97-6	Mercury, Dissolved	Not detected	µg/L	0.050	0.020	U
TESTCODE $6441_ALL		*BY: SW846 8270C*	*ON: 12/6/2016 9:04:00 PM*				
$6441 ALL	62-73-7	Dichlorovos	Not detected	µg/L	0.023	0.011	U
$6441 ALL	77-47-4	Hexachlorocyclopentadiene	Not detected	µg/L	0.023	0.011	U

PARTICLE ANALYSIS: This report shows the size of the paticles that is in the raw spring water. As you can see 84% of the particles are under 1 micron in size. This sample from the spring was taken when the Turbidity measured 2.81 NTU.

KING BOTTLING, INC.
ATTN: DAVID L. KING
SAMPLE ID: BOTTLE WATER
DATE: NONE TIME: NONE
SPECTREX CODE: C563



Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent	Mass/bin ppm
	< 1	82,892.30	84.42%	0.00%	0.00%	0.0000
1	1-5	13,643.87	13.89%	21.67%	6.59%	0.0466
2	5-15	1,294.67	1.32%	36.14%	28.82%	0.2039
3	15-30	199.18	0.20%	42.20%	64.59%	0.4571
4	30-50	0.00	0.00%	0.00%	0.00%	0.0000
	50-100	0.00	0.00%	0.00%	0.00%	0.0000

Total counts: 98,196.00/cc
Total suspended solids: 0.71ppm (mg/liter)
Dilution factor: 501.00:1
Spec. gravity: 1.00
Mean size: 2.34um
Standard dev: 2.87um

Page 1 of 2

Sample taken on February 11, 2016 at 1

KING BOTTLING, INC.
ATTN: DAVID L. KING
SAMPLE ID: BOTTLE WATER
DATE: NONE TIME: NONE
SPECTREX CODE: C563

Bin	Size	Total counts /cc	Counts percent	Surface area percent	Volume percent	Mass/bin ppm
	<	82,892.30	84.42%	0.00%	0.00%	0.0000
1	1um	7,934.02	8.08%	3.81%	0.59%	0.0042
2	2um	3,684.84	3.75%	7.08%	1.83%	0.0130
3	3um	1,427.46	1.45%	6.17%	2.17%	0.0153
4	4um	597.54	0.61%	4.59%	2.00%	0.0142
5	5um	398.36	0.41%	4.79%	2.46%	0.0174
6	6um	232.38	0.24%	4.02%	2.37%	0.0168
7	7um	232.38	0.24%	5.47%	3.63%	0.0257
8	8um	232.38	0.24%	7.15%	5.23%	0.0370
9	9um	0.00	0.00%	0.00%	0.00%	0.0000
10	10um	0.00	0.00%	0.00%	0.00%	0.0000
11	11um	66.39	0.07%	3.86%	3.59%	0.0254
12	12um	66.39	0.07%	4.59%	4.56%	0.0323
13	13um	0.00	0.00%	0.00%	0.00%	0.0000
14	14um	66.39	0.07%	6.25%	6.97%	0.0493
15	15um	33.20	0.03%	3.59%	4.21%	0.0298
16	16um	0.00	0.00%	0.00%	0.00%	0.0000
17	17um	0.00	0.00%	0.00%	0.00%	0.0000
18	22um	165.98	0.17%	38.61%	60.38%	0.4273
19	27um	0.00	0.00%	0.00%	0.00%	0.0000
20	32um	0.00	0.00%	0.00%	0.00%	0.0000
21	37um	0.00	0.00%	0.00%	0.00%	0.0000
22	42um	0.00	0.00%	0.00%	0.00%	0.0000
23	47um	0.00	0.00%	0.00%	0.00%	0.0000
24	52um	0.00	0.00%	0.00%	0.00%	0.0000
25	57um	0.00	0.00%	0.00%	0.00%	0.0000
26	62um	0.00	0.00%	0.00%	0.00%	0.0000
27	67um	0.00	0.00%	0.00%	0.00%	0.0000
28	72um	0.00	0.00%	0.00%	0.00%	0.0000
29	77um	0.00	0.00%	0.00%	0.00%	0.0000
30	82um	0.00	0.00%	0.00%	0.00%	0.0000
31	87um	0.00	0.00%	0.00%	0.00%	0.0000
32	92um	0.00	0.00%	0.00%	0.00%	0.0000
	>	165.98	0.17%	0.00%	0.00%	0.0000
	TOTALS	98,196.00	100.00%	100.00%	100.00%	0.7077

Sample taken on February 11, 2016 at 1

Chapter 3.0 Site Reconnaissance Summaries

NOTE: This study was performed by CE Consultants for Suntory Water Group

As part of our evaluation of potential spring sites, CE Consultants conducted site reconnaissance/sampling events on three separate occasions. A fourth visit to the site was conducted to evaluate potential wetland issues and to meet with a Kentucky-registered surveyor. Details from the fourth trip in Chapter 5.0 of this report.

The initial three trips to the spring site by CE Consultants' personnel were conducted in May, June, and July 1997. The purpose of these trips was to conduct initial reconnoiter activities and collect samples for various field and laboratory analysis. Summary letters were prepared and forwarded to Suntory personnel. Copies of those portions of the summary letters discussing the Climax Spring site are presented below in chronological order. Copies of site photographs taken by CE Consultants personnel during the fourth visit are presented in Appendix B.

3.1 May 1997 Site Reconnaissance Summary

The spring site is located approximately 9 miles from Interstate 75 at Exit 59 in Mt. Vernon, Kentucky. The property consists of 15 acres of privately owned land abutting the Daniel Boone National Forest. The state highway leading to the spring from Exit 59 are very tortuous and steep, making tanker access difficult. Alternative routes do exist which would be much more accessible for a tanker truck. Following one of these routes resulted in traveling approximately 27 miles of state and US Routes and accessing I-75 about 104 miles south of Cincinnati.

The spring discharges from the side of a hill near the interface of a sandstone bed overlying a limestone bed. Total discharge from this spring was estimated by CE Consultants, Inc. personnel to be in the range of 200 gpm. The location of the discharge with regard to the state road would enable the spring water to be collected at the discharge point and transported via gravity flow to a tanker loading near the road

General chemistry information collected on site include the following:

- PH= 7.45 Standard Units (SU)

- Specific Conductivity = 89 microsiements (uS – equivalent to micromhos per centimeter)
- Temperature = 13 º Celsius (C)
- Total Dissolved Solids (TDS) = 60 milligrams per liter (mg/l)

Interviewing a neighbor who was born and raised in the area revealed that the spring was formerly owned by the Mullins' family. Circa 1920's a gristmill was operated by the spring water. The neighbor could not remember when the gristmill ceased operation.

3.2 June 1997 Site Reconnaissance Summary

A second sample of the spring water was collected for verification of the May sample results. In general, the amount of water discharging appeared to be much greater than the volume discharging in May. Results of field analysis are as follows:

- pH = 7.07 SU
- Specific Conductivity = 59.4 uS
- Temperature = 15.3º C
- TDS = 28 mg/l

In addition, CE Consultants personnel evaluated an alternative route for ingress and egress from the spring site. During out initial visit, the potential use of SR 1912 to US Route 421 was investigated leaving an option of following SR 1787 to be investigated. The alternate roadways were evaluated during this June 1997 site visits. Following the alternative path, very narrow and extremely tortuous state- and county-maintained roads were encountered for the initial 4 to 5 miles. The condition of the roads improved as they approach the city of Berea, Kentucky where SR 21 intersects with Interstate I-75 (12 miles from the spring location). Because of severe turns and narrow nature of the initial 4 to 5 miles, the option of using SR 1787 to SR 1617 to SR 595 to SR 21 to I-75 is not viable for tractor-trailers.

3.3 July 1997 Site Reconnaissance Summary

This site was previously evaluated during both the May and June 1997 spring reconnaissance activities. Since the June 1997 sampling event, the owners of Climax Springs, Inc. have initiated "development" activities at the spring. The overburden material (loose rock fragments and soil) that was above the discharge has been removed exposing fractured sandstone and a large horizontal void from which the spring discharges. A sample of the water was collected as it issues from the rock and void area before ever reaching any of the materials placed on the site

by the current owners. Removal of the overburden material has resulted in the creation of a larger and relatively flat working area.

In addition, a third potential trucking route was evaluated. During our initial visit, the potential of SR 1912 to US Route 421 was investigated. The second site visit the option of following SR 1787 and its many connecting roads to access the site. During the July reconnaissance, the option of following route SR 1912 to US 421 to SR 21 to I-75 was investigated. Although the initial 2 – 3 miles was somewhat narrow, the trek was not very tortuous and the grades were manageable. Once US Route 421 was encountered, lane widths increased and the road conditions improved. State route 21 was also in very good condition from its intersection with US 421 to I-75 in Berea, KY. This roadway system is likely the most favorable as the trucks will be intersecting a major 4-lane highway 11 miles closer to the spring site than what was found by following US 421 to its intersection with I-75 in Richmond, KY. Additionally, the route from the spring site to I-75 at Mt. Vernon, KY (about 15 miles south of where SR 21 insects the interstate) was investigated. Although the roads were somewhat winding and a steep uphill grade was encountered, this route would probably suffice as an alternative to the primary trucking route in the event of road construction activities.

4.0 Site Setting and Geology/Hydrogeology

The following chapter presents a description of the physical setting of the Climax Spring site including the site topography, soils, general geology, and general hydrogeology.

4.1 Site Setting

Rockcastle Spring's discharge comprises a portion of the base flow of Brush Creek, which is a first order tributary of Roundstone Creek. Brush Creek flows within a v-shaped valley, which is typical of a dendritic drainage pattern in unglaciated temperate climates. Roundstone Creek discharges to the Rockcastle River, which in turn discharges to the Cumberland River, which is a subbasin of the Ohio River watershed.

The spring discharges along the side of a steep hillside from the base of a fractured sandstone unit immediately above shally limestone. The spring discharge is located at an approximate

elevation of 1140 feet above mean sea level (msl). The discharged water flows across the upper surface of the less permeable shaly limestone layer and forms a waterfall as the water cascades downward to a point where the spring flow joins Brush Creek at an approximate elevation of 1060 feet msl. Although very steep-sided, the hillsides and hilltops are predominantly covered with deciduous vegetation. A thin veneer of residual soils, formed by the in-place weathering of rock, is present across most of the spring area. Where residual soils are not present, exposed bedrock is evident. Colluvial soils consisting of a combination of alluvial deposits from the Brush Creek floodplain and talus (soils and rock fragments) are present at the base of the slope.

4.2 Geology and Hydrogeology

Climax Spring is located near the eastern extent of the Interior Low Plateau, which is adjacent to the Appalachian Highlands to the east. Regionally, rocks of the Lower Pennsylvanian-aged Pottsville Group compromise a west-facing steep slop (escarpment) that has been incised by the headwaters of the Cumberland River (including Brush Creek). In the vicinity of Climax Spring the Pottsville Group has been eroded and bedrock consists of the Lower Mississippian-aged Waverly Formation. The Waverly typically consists of shale and sandstone with more sandstone being present near the top of the unit. In addition, the formation can be limy with some chert being mostly to the south.

The spring actually emanates from a series of vertical and horizontal fractures and/or solution at the base of a sandstone bed. Underlying the sandstone is a shaly limestone that appears to have undergone some replacement of the limestone by chert. Chert tends to be highly resistant to erosion, which may account for the presence of the resistant rock ledge forming the waterfall. Further, the presence of chert within this lower unit is consistent with the water quality information obtained from the spring (Chapter 6.0).

Discharge rates were estimated by CE Consultants personnel during their spring evaluations. Additionally, the Kentucky Geological Survey (KGS) had historical records on the spring site. CE Consultants estimated discharge rates of approximately 200 gallons per minute (gpm). KGS representatives estimate the discharge to be closer to 110 gpm. The differences in estimated

discharge rate could result from numerous factors including time of year, the amount of precipitation, and recharge rates. Regardless, both estimates indicate that the spring discharges a volume of water that exceeds Polar Water's anticipated needs and would allow installation of a catchment system that would provide a sufficient volume of water for bulk filling while maintaining the existing waterfall.

The flow rates estimated by both entities indicate that the watershed area providing water to the spring is relatively large. Bedrock dips (direction and angle of inclination) to the southeast (toward the spring from the adjacent Daniel Boone Forest) indicating that the majority if the watershed area supplying water to the spring is to the north and northeast. Comparison of the regional geologic map further indicates that the watershed likely extends several miles to the northeast.

5.0 Cultural and Environmental Features

5.1 Cultural Setting

Climax Springs is situated on a 16-acre (+/-) tract of land near the town of Climax, Kentucky. The spring is located on the side of a steeply sloping hillside at the interface between the producing sandstone horizon and the underlying shaly limestone. The spring is surrounded by virgin forest growth and the property abuts the Daniel Boone National Forest. The area is predominantly rural with some sporadic residences and farmlands. Farmlands are typically used for crop growth, specifically mostly for tobacco. The few residences and local markets utilize either well water or obtain their supply from nearby springs (including Climax Spring which is heavily used by local residents).

The closest residence is located approximately 1,750 feet north of the spring along the Brush Creek floodplain. The only businesses close to the spring site include a country market/convenience store/retail gasoline station in Climax, Kentucky approximately 1 to 1.5 miles north-northeast of the spring site. No industrial buildings or facilities were identified within a 2-mile radius of the spring during a windshield survey of the area.

5.2 Potential Environmental Impact Areas

CE Consultants retained ERIIS to identify potential environmental risks and impacts associated with the spring source. ERIIS performed a database search and identified no environmental contamination sources within a 2-mile radius of the spring site. A copy of the ERIIS report is presented in Appendix C.

In addition to evaluating the region for potential environmental impacts, CE Consultants retained Environmental Balance to conduct a wetlands determination in the spring area. The purpose of the wetlands determination was to obtain verification from a wetlands specialist that future spring development activities would not have any impact on a wetland area. Environmental Balance identified a wetland in an intermittent stream valley adjacent to the hillside from which the spring emanates. However, the location and extent of this wetland area is not near the spring or the anticipated bulk water supply loading area. A copy of the Environmental Balance's wetland determination report is provided in Appendix D.

6.0 Water Quality Assessment

The following chapter discusses water quality data obtained through sampling activities conducted by Suntory and/or CE Consultants personnel and data provided by the owners of Climax Spring. Data from 2 of 3 sampling events conducted by Suntory/CE Consultants confirmed data provided by the Climax Springs property owners. The third sample result reported an anomalous concentration of nitrates. In general, the water contains very low total dissolved solids concentrations, low concentrations or no nitrates, and very low concentrations of common ions such as sulfate. Other common ions such as chloride were not found to be detectable. These data indicate that the spring water does not flow through carbonate units such as limestone or dolomite and that the contact time with the upper extent of the shaly limestone unit is very brief or that the carbonate material within this lower unit has been replaced with chert. ***In summary, the water quality of the spring appears to meet or exceed Suntory's internal standards.***

King Bottling, Inc.

Spring Raw Turbidity

Date	Spring Raw Turbidity	Date	Spring Raw Turbidity
2/23/2017	0.57 NTU	12/5/2016	0.18 NTU
2/22/2017	0.42 NTU	12/2/2016	0.25 NTU
2/21/2017	0.43 NTU	12/1/2016	0.23 NTU
2/20/2017	0.45 NTU	11/30/2016	0.22 NTU
2/17/2017	0.55 NTU	11/29/2016	0.20 NTU
2/16/2017	0.60 NTU	11/28/2016	0.22 NTU
2/15/2017	0.62 NTU	11/23/2016	0.17 NTU
2/14/2017	0.64 NTU	11/22/2016	0.24 NTU
2/13/2017	0.87 NTU	11/21/2016	0.21 NTU
2/9/2017	2.05 NTU	11/18/2016	0.17 NTU
2/8/2017	0.48 NTU	11/17/2016	0.18 NTU
2/8/2017	0.48 NTU	11/16/2016	0.18 NTU
2/7/2017	0.48 NTU	11/15/2016	0.22 NTU
2/6/2017	0.46 NTU	11/14/2016	0.17 NTU
2/3/2017	0.50 NTU	11/11/2016	0.19 NTU
2/2/2017	0.54 NTU	11/10/2016	0.20 NTU
2/1/2017	0.58 NTU	11/9/2016	0.18 NTU
1/31/2017	0.57 NTU	11/8/2016	0.22 NTU
1/30/2017	0.65 NTU	11/7/2016	0.19 NTU
1/27/2017	0.88 NTU	11/4/2016	0.19 NTU
1/26/2017	1.10 NTU	11/3/2016	0.20 NTU
1/25/2017	1.27 NTU	11/2/2016	0.20 NTU
1/24/2017	2.88 NTU	11/1/2016	0.20 NTU
1/23/2017	0.89 NTU	10/31/2016	0.18 NTU
1/19/2017	1.06 NTU	10/28/2016	0.22 NTU
1/19/2017	1.53 NTU	10/27/2016	0.37 NTU
1/18/2017	2.59 NTU	10/26/2016	0.20 NTU
1/17/2017	1.12 NTU	10/25/2016	0.19 NTU
1/16/2017	2.35 NTU	10/24/2016	0.20 NTU
1/13/2017	2.35 NTU	10/21/2016	0.20 NTU
1/12/2017	3.91 NTU	10/20/2016	0.21 NTU
1/11/2017	0.63 NTU	10/19/2016	0.20 NTU
1/10/2017	0.62 NTU	10/18/2016	0.20 NTU
1/9/2017	0.69 NTU	10/17/2016	0.17 NTU
1/5/2017	1.92 NTU	10/14/2016	0.20 NTU
1/4/2017	5.39 NTU	10/13/2016	0.19 NTU
1/3/2017	0.78 NTU	10/12/2016	0.20 NTU
12/29/2016	1.67 NTU	10/11/2016	0.17 NTU
12/29/2016	1.99 NTU	10/10/2016	0.20 NTU
12/28/2016	3.03 NTU	10/7/2016	0.19 NTU
12/27/2016	1.81 NTU	10/6/2016	0.23 NTU
12/22/2016	0.88 NTU	10/5/2016	0.19 NTU
12/21/2016	1.40 NTU	10/4/2016	0.21 NTU
12/20/2016	2.42 NTU	10/3/2016	0.21 NTU
12/19/2016	5.58 NTU	9/30/2016	0.26 NTU
12/16/2016	0.36 NTU	9/29/2016	0.34 NTU
12/15/2016	0.57 NTU	9/28/2016	0.21 NTU
12/14/2016	5.11 NTU	9/27/2016	0.22 NTU
12/13/2016	0.31 NTU	9/26/2016	0.23 NTU
12/12/2016	0.18 NTU	9/23/2016	0.35 NTU
12/9/2016	0.19 NTU	9/22/2016	0.27 NTU
12/8/2016	0.18 NTU	9/21/2016	0.36 NTU
12/7/2016	0.18 NTU	9/20/2016	2.44 NTU
12/6/2016	0.18 NTU	9/19/2016	6.75 NTU

Spring Raw Turbidity

Date	Spring Raw Turbidity		Date	Spring Raw Turbidity	
9/16/2016	0.20	NTU	7/7/2016	2.18	NTU
9/15/2016	0.27	NTU	7/6/2016	3.23	NTU
9/14/2016	0.24	NTU	7/5/2016	0.34	NTU
9/13/2016	0.23	NTU	7/1/2016	0.45	NTU
9/12/2016	0.24	NTU	6/30/2016	0.39	NTU
9/9/2016	0.22	NTU	6/29/2016	0.23	NTU
9/8/2016	0.21	NTU	6/27/2016	0.37	NTU
9/7/2016	0.29	NTU	6/24/2016	0.27	NTU
9/6/2016	0.21	NTU	6/23/2016	0.26	NTU
9/2/2016	0.23	NTU	6/22/2016	0.74	NTU
9/1/2016	0.28	NTU	6/21/2016	0.25	NTU
8/31/2016	0.27	NTU	6/20/2016	0.26	NTU
8/30/2016	0.25	NTU	6/17/2016	0.29	NTU
8/29/2016	0.24	NTU	6/16/2016	0.25	NTU
8/26/2016	0.30	NTU	6/15/2016	0.24	NTU
8/25/2016	0.40	NTU	6/14/2016	0.27	NTU
8/24/2016	0.43	NTU	6/14/2016	0.27	NTU
8/23/2016	0.54	NTU	6/13/2016	0.28	NTU
8/22/2016	2.22	NTU	6/10/2016	0.33	NTU
8/19/2016	0.52	NTU	6/9/2016	0.34	NTU
8/18/2016	0.36	NTU	6/8/2016	0.32	NTU
8/17/2016	0.35	NTU	6/7/2016	0.35	NTU
8/16/2016	0.30	NTU	6/6/2016	0.69	NTU
8/15/2016	0.38	NTU	6/3/2016	0.49	NTU
8/12/2016	0.43	NTU	6/3/2016	0.82	NTU
8/11/2016	0.63	NTU	5/31/2016	0.91	NTU
8/10/2016	0.79	NTU	5/27/2016	0.91	NTU
8/9/2016	0.96	NTU	5/25/2016	0.66	NTU
8/8/2016	1.65	NTU	5/24/2016	0.74	NTU
8/5/2016	5.22	NTU	5/23/2016	0.92	NTU
8/4/2016	1.20	NTU	5/20/2016	0.54	NTU
8/3/2016	3.78	NTU	5/19/2016	0.71	NTU
8/2/2016	4.65	NTU	5/18/2016	0.69	NTU
8/1/2016	3.60	NTU	5/17/2016	1.73	NTU
7/29/2016	4.17	NTU	5/16/2016	0.89	NTU
7/28/2016	0.23	NTU	5/13/2016	4.62	NTU
7/28/2016	0.23	NTU	5/12/2016	2.48	NTU
7/27/2016	0.25	NTU	5/11/2016	7.84	NTU
7/26/2016	0.30	NTU	5/10/2016	1.11	NTU
7/25/2016	0.23	NTU	5/9/2016	1.12	NTU
7/22/2016	0.27	NTU	5/6/2016	0.94	NTU
7/21/2016	0.33	NTU	5/5/2016	1.05	NTU
7/20/2016	0.29	NTU	5/3/2016	1.47	NTU
7/19/2016	0.65	NTU	4/29/2016	2.02	NTU
7/18/2016	1.38	NTU	4/28/2016	0.20	NTU
7/15/2016	2.39	NTU	4/27/2016	0.42	NTU
7/14/2016	2.39	NTU	4/26/2016	0.50	NTU
7/13/2016	1.86	NTU	4/25/2016	0.41	NTU
7/12/2016	4.58	NTU	4/22/2016	0.57	NTU
7/11/2016	4.29	NTU	4/21/2016	0.45	NTU
7/8/2016	5.61	NTU	4/20/2016	0.60	NTU

Spring Raw Turbidity

Date	Spring Raw Turbidity
4/19/2016	0.52 NTU
4/18/2016	0.53 NTU
4/15/2016	0.78 NTU
4/14/2016	0.81 NTU
4/13/2016	0.64 NTU
4/12/2016	0.87 NTU
4/11/2016	0.89 NTU
4/8/2016	0.91 NTU
4/7/2016	0.72 NTU
4/6/2016	0.67 NTU
4/5/2016	1.74 NTU
4/4/2016	0.78 NTU
4/1/2016	1.16 NTU
3/31/2016	0.71 NTU
3/30/2016	0.64 NTU
3/29/2016	0.71 NTU
3/28/2016	0.75 NTU
3/25/2016	0.70 NTU
3/24/2016	0.52 NTU
3/23/2016	0.58 NTU
3/22/2016	0.55 NTU
3/21/2016	0.62 NTU
3/18/2016	0.74 NTU
3/17/2016	0.83 NTU
3/16/2016	1.19 NTU
3/15/2016	1.23 NTU
3/14/2016	0.69 NTU
3/8/2016	0.71 NTU
3/7/2016	0.72 NTU
3/4/2016	0.86 NTU
3/3/2016	0.94 NTU
3/2/2016	1.03 NTU
3/1/2016	0.88 NTU
2/29/2016	0.25 NTU
2/26/2016	1.18 NTU
2/25/2016	1.95 NTU
2/22/2016	0.22 NTU
2/19/2016	4.49 NTU
2/18/2016	1.27 NTU
2/17/2016	1.89 NTU
2/12/2016	0.65 NTU
2/11/2016	0.76 NTU
2/10/2016	0.79 NTU
2/9/2016	0.82 NTU
2/8/2016	0.84 NTU
2/5/2016	1.53 NTU
2/4/2016	2.81 NTU
2/3/2016	2.90 NTU
2/2/2016	2.31 NTU

THE 12 SPRINGS THAT FLOWS TO THE WATERFALL THAT MAKES UP THE SOURCE FOR CLIMAX SPRINGS:

This image below shows the location of the 12 springs that feeds the waterfall. The springs start over the hill and around 1400 ft elevation the water disappears into the stream bed. The water then falls into a karst area under the mountain and all of the water discharges at the waterfall. All of the springs are in the Daniel Boone National Forest with the exception of Wypt 011.