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Kentucky Mineral Spring Resorts:
An Archaeological Reconnaissance
of Medical Trends and Land Use

By

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Submitted in partial fulfillment of the requirements
for Graduation summa cum laude
and
for Graduation with Honors from the Department of Anthropology
University of Louisville
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Contents

1.	Abstract.....	3
2.	Introduction.....	4
3.	Geology and Composition of Mineral Springs.....	8
4.	A Brief History of Kentucky Mineral Spring Resorts.....	15
5.	Mineral Spring Resorts and Medical Trends.....	24
6.	Literature Review.....	34
7.	Methods.....	78
8.	Results.....	80
9.	Conclusion.....	179
10.	Acknowledgements.....	184
11.	Appendix A.....	185
12.	References.....	186

Abstract

This project is an archaeological reconnaissance survey of 12 historic mineral spring resorts of Kentucky. The objective of this research is to assess the archaeological potential of these sites, and to provide an archaeological perspective on 19th and early 20th century Kentucky health care in relation to the use of opiates, as well as the evolution of land use in relation to preservation of features and artifacts associated with the resort hotel era. Compared to the number of sites in the state (71), very little archaeological investigation of mineral spring resorts has been conducted. The importance of these sites to Kentucky's early tourist economy, lifeways, and culture makes them an excellent area of study for local, regional, and national historical trends. Following an extensive literature review on Kentucky's 19th century health resorts, a 17% sample of the total sites mentioned in the literature (N=71), were selected for reconnaissance survey, consisting of location and mapping of any original features, as well as newer features which may be superimposed over the resort era landscape. Any associated artifacts were photographed and entered into a field notes database.

Introduction

The purpose of this project is to assess the archaeological potential of historic mineral spring sites in Kentucky. Specifically, the research will focus on the use of these sites during the antebellum period (beginning around the 1830s) through the early 20th century, when mineral waters were commercially used for their curative properties. Because this study is intended to highlight the significance of these sites, research questions have been included which cannot be addressed by a reconnaissance survey, or even by archaeology, in some cases. With sufficient archival research, archaeological investigation, and statistical analysis, future research may be able to address these areas by considering these sites collectively.

Activity in the areas of mineral springs during the periods before and after the American Civil War includes salt production, bottling, and the emergence and transformation of health resorts (Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; Lee 1981; Rennick 1984; Wells and Madigan 1983). These resorts (also referred to in the literature as "spas" or "watering places") remain largely unexplored by archaeologists, although they feature significantly in regional historic literature. Visited by both locals and tourists, they were a major component of Kentucky's economy from the 1830s until the early 1900s. According to a United States Geological Survey report on Kentucky's water resources:

The total sales of mineral water from the Blue Grass region approximate \$200,000 annually. Of this amount, about one-fourth is derived from the sale of table waters and the remainder from the sale of medicinal waters. Apart from the sales, considerable water is consumed at the springs where there are hotels, (Matson 1909: 90).

Although ostensibly their main purpose was medical in nature, health resorts competed for guests with increasingly elaborate additions to their recreational facilities, extending their functions to

socializing, sporting, gambling, and entertainment (Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; Lee 1981; Rennick 1984; Wells and Madigan 1983). Some even operated their own farms to provide for the hotel board (Turner and Anderson 2006:12).

Jon Sterngass (2001:112-145) asserts that the primary appeal of 19th century resort hotels was social mobility, pointing out that although the famous resorts at Saratoga Springs, Newport, and Coney Island in New York allowed people of both sexes and all social classes and backgrounds to meet and mix on expansive verandas, in ornate ballrooms, and at extravagant dinners, behind the scenes the hotels were actually quite uncomfortable, and the food often badly cooked. Private rooms were tiny, unheated and badly ventilated; the focus of the hotels in New York was the public spaces and the interactions for which they provided opportunities. John F. Sears (1989:5, 7) attributes the importance of 19th century tourist destinations (from Niagara Falls to Yellowstone National Park) not to social climbing, but to "a means of defining America as a place and taking pride in the special features of its landscape," arguing that tourist attractions originally filled the role of sacred spaces in a multi-denominational population, providing "mythic and national unity." Charlene M. Boyer Lewis (2001:11), in her study of the springs of Virginia, states that spring resorts "offered new experiences, new identities, and new opportunities...by replicating, exaggerating, reshaping, or changing plantation society's social hierarchies, rituals, rules, and gender relations."

Virginia springs, like Kentucky springs, were planned and landscaped to emphasize the contrast between the natural beauty surrounding the grounds and the formal gardens and manicured lawns of the resorts themselves (Lewis 2001:33). Hotel sites were chosen not only for the quality of their waters, but the surrounding vistas, as well—mountains, forests, valleys, and rivers (Lewis 2001:32-36). Two examples from Kentucky are Drennon Springs (Henry County),

where the hotel sat atop a terraced slope overlooking a sweeping valley with a line of forested hills beyond Drennon Creek; and Grayson Springs (Grayson County), where a straight line of cedars still marks the path from the hotel to the improved springs, behind which is a still-walkable trail through the forested hilltop above the springs and overlooking the grounds below.

The wealth of available historic sources relating to mineral spring hotels makes them a compelling area of study for several reasons. Logistically, it enables researchers to narrow down potential excavation areas. It also gives the archaeologist a context for framing questions and hypotheses prior to field investigation. Additionally, if the findings in the field run counter to or add information not found in the historic documentation, it would shed new light on our understanding of the 19th and early 20th centuries in and beyond Kentucky.

The historic literature also contains gaps and omissions, which archaeological research may be able to clarify. For example, though precise dates of operation are available for some of the most famous resorts, the dates for others are generalized by phrases such as, "a watering place of the late 19th century" or "a popular resort of the 1890s" (Coleman 1942; Lee 1981). Exact dates are necessary for statistical analysis when considering these sites collectively in order to establish quantifiable trends. Similarly, the activities offered at specific spring resorts are given mainly in the cases of the most well-known sites, leaving the majority of the sites virtually useless in statistical terms for comparison of tourist spots with local or regional attractions, as well as research into changing views on entertainment over time. Another aspect of the hotel era neglected in the literature, which could be addressed archaeologically, is the lives of slaves and servants, their living conditions, or the locations of their quarters (an exception is a postcard from Sebree Springs (Webster County) (see Figure 1).

Figure 1. 1911 postcard depicting servants at Seebree Springs (Webster County) (Kentucky Historical Society 2015).

An archaeological examination of these sites could answer a number of questions about their place in local, regional, and national culture. The most basic questions to address relate to the preservation of features or artifacts from the hotel era use of the sites. How do those features and artifacts which remain compare with what is documented in the literature? What were these sites used for in subsequent occupations, and how has later activity affected the preservation of hotel era deposits? Is there a shift in which types of mineral water were most popular over time? What factors contributed to the decline in popularity of these resorts?

The more complex questions extend the focus into the broader contexts of the time period and changes in regional and national culture. What can be found in the archaeological record that would provide insight into the effects of increasing access to transportation—from stagecoach and steamboat routes to railroads and, later, automobiles—both in terms of travel to remote

locations and the availability of goods such as non-regional foods, ceramics, or medicines? Are goods associated with the main hotels of a different quality or found in different proportions than artifacts associated with rental cottages on the grounds? Are there significant differences between resorts attended mainly by locals versus those attended by tourists from outside the region in terms of non-regional artifacts, the number or variety of mineral springs on the property, or the variety of activities offered by the resort? How does the popularity of these resorts correlate with medical trends of the time period, especially the use of opiates in the 19th century?

Geology and Composition of Mineral Springs

Blue Hole and Bluff Springs

As explained by J.A. Van Couvering (1962:5) of the Kentucky Geological Survey, "A useful and apparently natural distinction is made between 'blue hole' (artesian) springs, which yield relatively smaller and more consistent amounts of constant-temperature, nonturbid [containing little or no sediment or contaminants] water, and 'bluff' springs, which yield relatively more, and more widely and rapidly changing amounts, of varying temperature, commonly turbid water."

Bluff springs often, literally, flow from crevices in cliff faces. In general, they are highly variable in amount of discharge, water temperature, and turbidity. Blue hole springs, on the other hand, "'well up' from deep pits, in which the clear water appears blue. 'Blue hole' springs are...among the least variable in discharge rate and temperature, probably...because the water they emit has percolated relatively slowly through small fractures," and "seldom or never emit

turbid water," (Van Couvering 1962:15-16). Although the historic literature does not specify, in most cases, whether a resort depended on a "bluff" or "blue hole" spring, the consistency of "blue hole" water in terms of purity, temperature, and discharge would seem to lend advantage to those resorts which relied on this type of spring. Since "bluff" springs also run the risk of seasonal flooding, a "blue hole" resort would also avoid expensive annual repair (*ibid.* 1962:16).

Mineral Springs Sites by Physiographic Region

There are six physiographic regions of Kentucky: the Mississippian Plateau (or Pennyryle), the Eastern Coal Field, the Western Coal Field, the Bluegrass Region, the Knobs Region, and the Mississippi Embayment (or Jackson Purchase) (Kentucky Geological Survey 2012). The Mississippian Plateau is characterized by karst terrain—soluble limestone deposits within the bedrock which give rise to sinkholes, caves, sinking streams, and springs. The two coal fields are composed mainly of sandstones, which are more resistant to erosion. Cliffs and escarpments are common in both regions, but are more dramatic in the Eastern Coal Field due to the interspersal of less resistant layers of shale within the sandstone bedrock. The Knobs are a very narrow border region surrounding the Bluegrass region, and as such it is difficult to distinguish a site as being exclusively within the Knobs area; therefore, for the purposes of this research, the Knobs will be included as part of the Bluegrass. The Bluegrass region contains interbedded limestone and shale deposits, which makes it, like the Mississippian Plateau, prone to underground channels that produce caves and springs. The Mississippi Embayment is a flat region of lakes, ponds, and swamps along the New Madrid Fault, the site of the strongest recorded earthquakes in U.S. history in 1811-1812 (KGS 2012).

Figure 2. Physiographic regions of Kentucky (KGS 2012).

There are 68 spring sites mentioned in the literature for which both physiographic region and mineral water related human activity have been established by this review (Allen 1967 [1872]; Butts 1915; Coleman 1942; Collins 1976 [1874]; Jillson 1929; Lee 1981; Peter 1905; Rennick 1984; Turner and Anderson 2006; Wells and Madigan 1983). Based on this information, the counties of the Mississippian Plateau and Bluegrass Regions appear to have the highest number of spring-related sites present, while the Western Coal Field has the highest average number of springs per site and the highest number of mineral springs. Most of the springs (100 of 117) in the Western Coal Field are located at Grayson Springs (Grayson County) (Table 1).

Mineral Springs at Resort Sites by Physiographic Region (Table 1)

Region	No. of Sites	Minimum No. Springs	Average No. Springs Per Site
Mississippian Plateau	19	37	1.95
Eastern Coal Field	8	21	2.63
Western Coal Field	8	117	14.6
Bluegrass and Knobs	33	90	2.73
Mississippi Embayment	0	2	n/a
Total:	68	226	

Sources: Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; KGS 2012; Lee 1981; Rennick 1984; Turner and Anderson 2006; Wells and Madigan 1983

In the literature, 225 of the 226 minimum number of mineral springs (99.56%) are specified by type (Table 2). Of those 225, the Bluegrass region contains the most variety of mineral spring types and the majority of the salt and saline-sulfur springs in the state. Due to the number of white sulfur springs at Grayson Springs, the Western Coal Field has more sulfur springs than the rest of the state combined, and the only carbonated alkaline springs in the state. Most of the Eastern Coal Field's springs are chalybeate, and it has contains no salt or saline-sulfur springs. The Mississippian Plateau has more chalybeate springs than any other region, and the only tar springs. The Mississippi Embayment's two springs are chalybeate.

Mineral Content by Physiographic Region (Table 2)

Region	Sulfur		Salt		Chalybeate		Other
Mississippian Plateau	12%	N=18	20%	N=2	33%	N=8	Tar (1), Alum (1), Saline-Sulfur (1)
Eastern Coal Field	3%	N=5	0%	N=0	17%	N=4	Natural Oil (1), Alum-Chalybeate (1)
Western Coal Field	67%	N=103	20%	N=2	17%	N=4	Saline-Chalybeate (2), Lithia (1), Carbonated Alkaline (5)
Bluegrass and Knobs	18%	N=28	60%	N=6	25%	N=6	Alum (4), Magnesium (3), Natural Oil (1), Saline-Chalybeate (1), Saline-Magnesium (2), Sulfur-Saline (13)
Mississippi Embayment	0%	N=0	0%	N=0	8%	N=2	
Total:	100%	N=154	100%	N=10	100%	N=24	

Sources: Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; KGS 2012; Lee 1981; Rennick 1984; Turner and Anderson 2006; Wells and Madigan 1983

Mineral Content and Bedrock

Sulfur springs occur in karst landscapes due to the sulfate content of limestone, which is reduced to sulfide and subsequently oxidized to produce elemental sulfur and water. The reduction from sulfate to sulfide can occur in two ways: through the activity of anaerobic bacteria, or through geochemical isotope reactions (Klimchouk 2005:14-15). The resulting hydrogen sulfide reacts with oxygen to produce elemental sulfur, sulfite, disulfate, sulfate, and

polysulfides. According to Alexander B. Klimchouk, "The reaction varies with pH, concentration of reactants, and the presence of impurities," with lower pH being more likely to produce pure sulfur (Klimchouk 2005:15). Since limestones tend to be soluble, water flowing through joints pick up other minerals, such as calcium and magnesium, which were also valued for their medicinal properties (Matson 1909:15, 42).

The depth of a spring's source is another important factor in its mineral content. Springs from sources 50-100 feet or more in depth within Ordovician limestones (which underlie the Bluegrass area) are almost invariably saline-sulfur; in fact, it is difficult to get any other kind of water from a 50-foot well in areas predominated by limestones of the Ordovician Age (Jillson 1929:112, 128, 351; Matson 1909:16, 51-52). The interbedding of limestones and shales (common in the Bluegrass, Mississippian Plateau, and portions of both Kentucky Coal Fields) leads to the natural formation of mineral springs, since water flows above the less easily penetrated shale layers, slowly dissolving the limestone between and exiting through joints in the limestone (Matson 1909:16; KGS 2012). In deep strata, water tends to flow slowly due to constriction by the shale layers and non-jointed sections of the limestone. The extended contact with the rock allows more mineral content to be dissolved; therefore, a "stronger" mineral water is produced (Matson 1909:15, 46-48). Silurian and Devonian shales, which have a high mineral content, contribute their own components to the springs: sulfur, alum, salts (including magnesium sulfate, or Epsom), and iron. The high levels of iron in Devonian shales dissolve into groundwater, where the iron compounds oxygenate to form hydrous oxide (salts of iron), resulting in chalybeate springs (Jillson 1929:173; Matson 1909:86-87).

Because springs from deeper strata tend to have higher mineral content, fault lines are associated with clusters of mineral springs within a relatively small area (prime locations for

resort spas looking for a variety of waters to offer their guests). "The relation of springs to fault lines is a well-known phenomenon," writes geologist Herbert E. Gregory, who lists instances of multiple springs occurring along fault lines including "the hot springs of the southern Appalachians, Saratoga Springs...Pomperaug Valley [Connecticut]...[and] South Britain," (1909:114-115). Kentucky lies atop multiple fault lines, and faults with high karst potential appear to correlate closely with clusters of springs (see Figure 3).

Figure 3: Map of Kentucky's fault lines, Karst potential, and springs. *Source:* Kentucky Geologic Map Information Service.

A Brief History of Kentucky Mineral Spring Resorts

Prior to the hotel era, which began around 1830, mineral and salt springs or "licks" had been utilized since the Pleistocene by Native Americans for both medicinal and hunting purposes. Many game animals, including white-tailed deer (*Odocoileus virginianus*), muskoxen (*Ovibos moschatus*), mammoths (*Mammuthus columbi*), and mastodons (*Mammut americanum*), were attracted by salt and mineral waters. The springs of Big Bone Lick (named for the plethora of megafaunal remains found in the area), and, to a lesser extent, other salt and sulfur waters throughout Kentucky, provided hunters with almost guaranteed success. When European settlers arrived in Kentucky, they, too, looked to the mineral springs for game and for healing, and to freshwater springs to supply their settlements.

As settlements near water sources evolved into towns, many mineral springs became the objects of commercial ventures—salt and epsom production from saline springs, bottling and sale of mineral waters as home remedies, and the emergence of taverns and hotels at springs sites. Many of these hotels grew into large resort complexes with rental cabins on the grounds—and, in some cases, multiple hotels and separate bathhouses—as well as hiking and riding trails, gardens, bandstands, and dance halls (Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; Lee 1981; Rennick 1984; Wells and Madigan 1983). Guests could both drink and bathe in the curative mineral waters, and some resorts included medical care in their weekly charges for room and board (Llewellyn 1970; Stice 1927).

The supposed medicinal properties of the waters, though advertised, only accounted for a small part of the attraction of mineral spring resorts (Coleman 1942; Jillson 1929). In addition to lavish meals, music and dancing, cards and billiards, and exercise through walking, boating,

hunting, and riding, resorts continually added new diversions such as bowling alleys, croquet fields, skating rinks, horse and bicycle racetracks, and tennis courts. Gambling rooms, bar rooms, and ballrooms were built and expanded. Artificial lakes and terraced gardens with exotic vegetation were constructed to beautify the grounds. Musicians and dance instructors were hired for entire watering seasons—early summer through early fall (Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; Lee 1981; Rennick 1984; Talley 2002; Turner and Anderson 2006; Wells and Madigan 1983).

Some resorts were sought as refuges during cholera epidemics which periodically swept through Kentucky during the 19th century (Coleman 1942; Collins 1976 [1874]). When cholera hit central Kentucky in the summer of 1833, "People fled Lexington in stage-coaches, by foot, on horseback, in wagons, etc.," and the patronage of watering places boomed (Coleman 1942:11-12). Many Lexingtonians fled to either Olympia Springs (Bath County) or the Keene Springs Hotel (Jessamine County), during a second cholera panic in 1849, and owners of resorts put out advertisements proclaiming their businesses to be cholera-free (Coleman 1942:11-12; Wells and Madigan 1983). Another wave of cholera in 1854 and a yellow fever epidemic in the deep South in 1855 boosted business for the spring resorts of Kentucky (Coleman 1942:18; Turner and Anderson 2006:7). In spite of claims by proprietors that their waters kept patrons safe from these epidemics, however, outbreaks also occurred at some of the resorts. Esculapia Springs (Lewis County) faced a cholera crisis in 1850, and within three years was forced to shut down, though it reopened after extensive renovations in the 1870s (Talley 2002). Drennon Springs (Henry County) suffered a worse fate during the Civil War, when a cholera outbreak prompted those in residence at the time to set fire to the hotel (Lee 1981:325).

The literature mentions over 70 mineral spring resorts in operation between 1830 and 1920, with two major peaks in popularity—the first in the 1840s and the revival beginning in the 1870s and peaking in the 1890s. Most of Kentucky's resorts primarily served local or regional guests, but about 15% are noted in historical sources as sites of national repute, attracting tourists from all parts of the nation, particularly the East coast and the deep South (Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; Lee 1981; Rennick 1984; Turner and Anderson 2006; Wells and Madigan 1983). The high prevalence of fever during the summer in the South, especially malaria and yellow fever, led many to believe that the climate itself was responsible for sickness; Kentucky resorts became the South's favorite destination for escaping the unhealthy Southern summer (Coleman 1942; Collins 1976 [1874]; Stowe 2004:1-6).

A decline in mineral spring visitation occurred as Kentucky struggled economically in the 1850s, and many resorts were forced to close. The Civil War took its toll on others through physical damage or destruction of the buildings, as well as the decline in tourism. As a battleground state, travel through Kentucky was too dangerous for most vacationers, and many patrons of the big-name spring resorts were well-to-do Southern families who lost their fortunes over the course of the war (Allen 1967 [1872]; Collins 1976 [1874]; Coleman 1942).

Post Civil War, throughout the 1870s and 1880s, some of the old resorts re-opened and numerous new resorts were built. By the final decade of the 19th century, the extent of resort grounds and variety of activities offered to guests were, according to historical literature, even more elaborate than they had been in the antebellum era (Coleman 1942; Lee 1981; Rennick 1984; Turner and Anderson 2006; Wells and Madigan 1983). For example, according to the historical marker at Cerulean Springs (Trigg County), between 1879 and 1907, a bowling alley, ballroom, dancing pavilion, skating rink, and a 50-room hotel annex were constructed; even after

a fire in 1904, the hotel continued to expand its amenities. At Esculapia Springs (Lewis County), owner William F. Jones had an addition to the hotel built, as well as separate bathhouses, in the 1870s, and a telephone line added in 1881 (Talley 2002). New resorts of the 1890s included Swango Springs Spa (Wolfe County), Tatham Springs (Washington County), and Dawson Springs (Hopkins County), among others.

The popularity of the resorts wound down gradually after the turn of the 20th century. Prices for livestock, coal, and tobacco fell prior to the market collapse of 1929, plunging Kentucky into poverty even before the Great Depression hit the rest of the nation (Lee 1981:100-105). As noted by J. Winston Coleman, Jr. in his article "Old Kentucky Watering Places,"

The period from 1900-1915 witnessed gradual decline...a number of hotels burned and others were allowed to run down and fall into decay...with the advent of automobiles and good roads, the doom of these old watering places was sealed, many of them having already gone out of business, and those that survived closed their doors about the time the U.S. entered the World War, (1942:25).

As spring resorts floundered around the time of the Civil War, and later, in the 1920s-1930s, some were abandoned and others were remodeled for various new purposes, such as boarding schools, military academies, or veterans' asylums. Clear Creek Springs (Bell County) was converted into a Baptist retreat and recreation center in the early 1920s, after the main hotel burned (*Courier-Journal* 1923). From 1851 to 1865, the Western Military Institute operated at Drennon Springs, until the main buildings were deliberately burned due to a cholera outbreak during the Civil War (Coleman 1942:16-17, 21; Lee 1981:325) Many of the old hotel buildings burned, either before or after abandonment (Rennick 1984; Wells and Madigan 1983). Esculapia and Glen Springs in Lewis County had both burned to the ground (Esculapia burned three times)

by 1912, as did Estill Springs (Estill County) in 1924 and Cerulean Springs in 1925 (Talley 2002; Wells and Madigan 1983).

In 1870s and 1880s, America's economic recovery from the Civil War shifted into a boom-and-bust cycle based around railroad expansions, integrations, and strikes, which must have had profound effects on rural resort hotels where guests arrived primarily by train (Ginger 1975:38-39, 58-60). Aside from economic change, there are several other factors to consider in explaining the long-term success of some resorts over others.

Access to Changing Transportation

The majority of mineral spring resorts which lasted past the 1840s were either easy to access by steamboat or were close to stage coach stops. With the rise of railroad travel, at least a third of operative spring hotels were located near train stops (Coleman 1942; Turner and Anderson 2006; Wells and Madigan 1983). In addition to transportation of both local and national guests to the resorts, access to steamboat routes and railroad systems would have allowed for delivery of goods such as food, pottery, alcohol, and other supplies from around and outside of the region. Since, between 1891 and 1909, Kentucky's constitution "prohibited the state from establishing road-building funds," historian Lloyd G. Lee states that "...[Kentucky] road conditions were terrible, even though the 20th century was well underway. Many rural activities, such as church attendance, had to be suspended in winter because of impassable roads," (Lee 1981:98). Although the watering season was in the summer and early autumn, bad road conditions may well have delayed the effects of automobile travel on spring resorts in the early 20th century.

Mineral Content of Waters

Resorts with access to multiple types of mineral water would seem to have an obvious advantage, since specific waters were supposed to cure specific sets of illnesses, but more precise dates and conditions of resort operation are needed to confirm this hypothesis statistically.

Audrea McDowell (2014 [1995]) writes that, "This variety [of waters] was important and well publicized because it meant that spas...could attract guests in need of various treatments and keep them for the season rather than have them move on to rival establishments." Families and their servants also traveled together to the springs (even those in good health), so a variety of spring types would have allowed a resort to offer each member specific benefits (Coleman 1942:8).

	Red sulphur.	White sulphur.	Black sulphur.	Chalybeate.
Silica (SiO ₂).....	6.8	4.0	13	32
Iron (Fe).....			48	15
Aluminum (Al).....		8.5	3.6	
Calcium (Ca).....	81	121	45	148
Magnesium (Mg).....	26	25	11	47
Sodium (Na).....	99	52	26	7.4
Potassium (K).....	42	32	7.6	4.9
Carbonate radicle (CO ₃).....	197	24	108	72
Sulphate radicle (SO ₄).....	176	152	67	350
Phosphate radicle (PO ₄).....		Trace.		
Chlorine (Cl).....	5	5.5	22	5.5
Organic and volatile matter.....	40	50	59	141
Free carbondioxide (CO ₂).....	715	696	410	896
Free hydrogen sulphide (H ₂ S).....	325	360	263	269
	4.5	3	35	0

^a Geol. Survey Kentucky, 1st ser., vol. 4, p. 143.
^b Obtained by computation to ionic form; results originally stated in hypothetical combinations.

Figure 4. An analysis of Estill Springs' various waters (Palmer 1909:206).

Activities Offered

Detailed information about the activities offered by the resorts is extensive for only about 23% of the sites. Of these, almost three quarters of the descriptions specifically mention the presence of a ballroom on the grounds. Over a third of the descriptions mention bathhouses, and almost a quarter mention gambling, cards, billiards, or pool halls. One third mention bowling

alleys. Two sites mention horse tracks and racing as an attraction (Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; Lee 1981; Rennick 1984; Talley 2002; Turner and Anderson 2006; Wells and Madigan 1983). Figure 5 is a plat map, showing the layout of the resort grounds at Cerulean (Trigg County). Additional literature from historical societies may yield additional detailed descriptions and/or plat maps, providing a larger sample size for the prevalence of various activities. Archaeological evidence of features at other sites would also provide additional information and accurate numbers for future statistical analysis when considering these sites collectively.

Figure 5. Plat map of Cerulean Springs (Turner and Anderson 2006).

Urbanization

Entertainment and tourism in the 1890s and early 20th century turned toward urban events and locations. Circuses, county and state fairs, and railroad tours to East Coast destinations such as Atlantic City and Niagara Falls gained popularity over Kentucky resorts (Coleman 1942:24). Newspaper articles from the 1920s, even as they often mention the demise of the old resort hotels, mention new or expanded mineral spring enterprises in Jefferson County—Norwood Mineral Water Company and Indian Wells in St. Matthews, Mountain Valley Water Company and St. Patrick's Well downtown, and Blue Rock Hotel in Fisherville were all featured in Kentucky news articles and geological surveys through the late 1920s, praised for the medicinal properties of their water as cures against stomach, kidney, and intestinal complaints of all kinds (Butts 1915:244-247; *Louisville Civic Opinion* 1923, 1929; *Louisville Post* 1925; *Louisville Times* 1929, 1931). The more remote resorts—those far from large towns or cities and tucked away from major highways—were abandoned. The resorts which survived into the 1930s or beyond generally served as retreats or summer camps (Coleman 1942; *Courier-Journal* 1927; *Lexington Herald* 1935; Turner and Anderson 2006:121-122).

Factors in the Longevity of Mineral Spring Resorts (Table 3)

Name	County	Dates	Springs	Transportation	Attractions
Aden Springs	Carter	1890s		C&O RR	
Allen Springs	Warren	1837-1862?	1, Sulfur		
Alum Springs	Boyle	1876 (or earlier)-1904?	Chalybeate, Alum, Black Sulfur	L&N RR	
Beachville Spring	Metcalfe		Sulfur, Salt		
Bedford Spring	Trimble		3, Saline, Sulfur-Saline		
Beechwood Spring	Owen		Magnesium		
Big Bone Springs	Boone	1815-1916?	3, Saline-Sulfur	Steamboat, Stagecoach, L&N RR	hunting, ballroom, bathing rooms
Blue Licks	Nicholas	1830s-?	Saline-Sulfur w/ Bromine and Iodine	Stagecoach, Steamboat	ballroom, boating, entertainers (including John Hunt Morgan & His Lexington Rifles)
Blue Rock Hotel	Jefferson	1905-1921	1, Mineral	In Fisherville	artificial lake, fountain
Breckenridge Tar Springs	Breckenridge	1840s	11, White Sulfur, Tar		
Buena Vista Springs	Logan			L&N	tennis court, croquet grounds, billiards, swings, walks, landscaped gardens
Carlsbad Springs	Grant	?-1930s?			
Cerulean Springs	Trigg	1817-1926	1, Black Sulfur	Illinois Central RR	bowling alley, dance pavilion, skating rink, gambling, bar room
Chalybeate	Edmonson	late 1800s	Chalybeate		
Chameleon Springs	Warren		Sulfur		
Clear Creek Spring	Bell	1850s?-1910s	8	L&N RR, Cumberland & Tennessee RR, US Hwy 25E	

Name	County	Dates	Springs	Transportation	Attractions
Crab Orchard Springs	Lincoln	1827-1930s	Sulfur, Chalybeate, Salt, 6 Saline-Sulfur, Magnesia	L&N RR, US 150	horse racing, ballroom, entertainers (including John Hunt Morgan & His Lexington Rifles)
Crittenden Springs	Crittenden	1887-1919	Salt, Sulfur		dancing pavilion
Davis Spring	Hopkins		Saline-Chalybeate		
Dawson Springs	Hopkins	1890s-1920s?	40, Chalybeate, Lithia-Saline Chalybeate	Illinois Central RR	box-ball alley, ballrooms, orchestra, parks, jewelry and souvenir shop, soda fountain, bathhouses, fishing, canoeing, steam paddleboat rides
Diamond Springs	Logan	1893-?	5, Chalybeate	L&N RR	rustic cabins, forested
Drennon Springs	Henry	1830s-1880s	Blue Saline-Sulfur, Black Sulfur, Salt	Steamboat	
Dripping Springs	Garrard	Late 1800s-1920s	5, Chalybeate, Sulfur, Magnesium		horse racing, croquet, pavilion
Esculapia Springs	Lewis	pre-1846-1912	Chalybeate, White Sulfur, Alum, Warm	Steamboat and stagecoach, C&O RR	bathhouses, hot and cold baths, bowling alley, croquet field, shooting gallery, swings, "circular railway", walks, drives, hiking trails, labyrinths, arbors, summer houses, orchard and ornamental gardens, livery stable, hunting, fishing
Estill Springs	Estill	1814-1924	White Sulfur, 2 Red Sulfur, Black sulfur, Chalybeate, Alum-Chalybeate, Copperous Chalybeate	L&N RR	ballroom, plunging bath
Fox Springs	Fleming	1860s-?	6, Sulfur		
Franklin Springs	Franklin	?-1845			
Glen Springs	Lewis	1820s-1890s	White Sulfur		post office & store, ballroom
Graham Springs	Mercer	1807-1934	2, Saline-Sulfur w/ Magnesium and Iron, Sulfur-Magnesia	Stagecoach, Steamboat, Southern RR, US 127	2 ballrooms, dance instructor, formal dances, band stand, theatre, regular theatre company, slave band, pleasure garden, battledore court, gaming room, saloon, 4 bowling alleys, artificial lake, grotto, walking and riding paths, steam rooms, hot showers and baths
Grayson Springs	Grayson	1825-1930	100+ White Sulfur, 1 Chalybeate, Lithia	Illinois Central RR, Western KY Pkwy	pool, billiards, gambling, ballroom, weekly formal dances, weekly cake walks and minstrel shows, bar, gardens, park, wooded walks and riding trails, group sing-alongs, hunting, fishing, shooting gallery, water curling, mineral water swimming pool, golf course, tennis courts, croquet field, steam heat, lectures, concerts, theatrical performances, orchestra, fireworks show, bathhouses, mud baths, steam rooms, showers, massage
Greenbriar Springs	Garrard	late 1800s?			
Green Briar Springs	Lincoln	1890-?			fox-hunting, fishing, bathing, dancing
Greenville Springs	Mercer	(see	Graham	Springs)	
Hardin Springs	Hardin	1890s	Sulfur		
Harris Health Haven	Jefferson	1926-?	5	In Louisville	treatment rooms
Keene Springs	Jessamine	1848-1868	White Sulfur, Saline-Magnesia	Stagecoach, Ferry	tavern/bar, ballroom, livery stable
Keo-Me-Zu Springs	Kenton		3, Chalybeate, Alum		
Kirkwood Springs	Hopkins	late 1900s			
Kuttawa Springs	Lyon	1866-1960s	5, Carbonated Alkaline	Illinois Central RR	swimming hole, tennis courts, croquet courts, barbecue pit, dining hall, pavilion, restaurant, concession booths, Olympic-sized swimming pool, boating on Lake Cumberland
Latonia Lakes	Kenton		5, Salt, Sulfur		horse racing, 3 natural lakes
Linnietta Springs	Boyle	1876 (or earlier)-1904?	Black Sulfur, Epsom-Chalybeate, Salt, Saline-Sulfur, White Sulfur, Alum	L&N RR, Cincinnati Southern RR	ballroom, weekly performances and dances
Mallory Springs	Madison	1890s			
Manitou	Hopkins		Sulfur, Salt		
Massey Springs	Warren		Chalybeate, Alum	Ferry	
Mitchell Spring	Boyle		White Sulfur	L&N RR	
Oil Springs	Clark	1890s	Natural Oil		
Oil Springs	Johnson	1870s?	Natural Oil		
Olympia Springs	Bath	1791-1940s	10+, Chalybeate, White Sulfur, Black Sulfur, Saline-Sulfur	Stagecoach, Lexington & Big Sandy RR, C&O RR	cards, billiards, horse racing, music, ballroom, bathing, swings, riding, hunting (dog pack available on site)
Paroquet Springs	Bullitt	1830s-1900?	3, Sulfur, Salt w/ Magnesium and Iron	L&N RR	walking paths, rowing, sailing, ballroom, hot showers, vapor baths, fishing, hunting, bowling, cards, and dancing, gardens, driving park, brass and string bands, billiards, croquet, tennis, bowling, swings
Red Boiling Springs	Monroe		Sulfur		
Riffe Springs	Morgan				
Rochester Springs	Boyle	1819	Saline-Sulfur w/ Magnesium	Nashville Road	racetrack, swimming hole

Name	County	Dates	Springs	Transportation	Attractions
Rockcastle Springs	Rockcastle	1880s?	Chalybeate		boating, bathing, bowling, fishing, deer-hunting, quoits [a ring toss game], billiards, cards, music, dancing
Russell Springs	Russell	1850?-1942	Chalybeate, Sulfur		
Salubria Springs	Christian	1908-1933			
Sebree Springs Park	Webster	1860s-1911	Saline, Sulfur, Chalybeate		dancing and games pavilion for vendor stalls and bowling
Springdale	Webster		Sulfur, Chalybeate		
Sulphur Lick Springs	Monroe				
Sulphur Well	Metcalfe	1854-1969	Saline-Sulfur w/ Magnesium and Iron		dance hall, pool room, bowling alley
Swango Springs Spa	Wolfe	1895-1910	Chalybeate		
Tar Springs	Hancock				
Tatham Spring	Washington	1893-1940?	Sulfur	Bluegrass Parkway	bathhouses, store, swimming pool
Tioga Springs	Hardin	1830-1918			
Tolley Springs	Livingston				
Torrent Springs	Wolfe				
Washington Bell's Sulphur Spring	Nelson		Sulfur		
White Sulphur	Johnson	1830s	White Sulfur		
White Sulphur Springs	Lewis		White Sulfur		
White Sulphur Springs	Scott	1830s-1850s	White Sulfur	Turnpike	ballroom

Sources: Allen 1967 [1872]; Bell 1831; Coleman 1942; Collins 1976 [1874]; KGS 2012; Lee 1981; Rennick 1984; Turner and Anderson 2006; Wells and Madigan 1983

Mineral Spring Resorts and Medical Trends

American medicine in the 19th century was intensely conflicted. Orthodox physicians of the time period favored "allopathic" or "heroic" medicine—"the use of measures that produced physiological effects radically different from the patient's symptoms in an effort to 'reverse' the disease," (Stowe 2004:8). These measures, including purging and bleeding, were aggressive, painful, and often futile or even fatal, hardly inspiring the public's confidence in formally-educated doctors (Dary 2008; Stowe 2004).

It was not until the 1870s that antiseptic measures were common practice, and even then, "doctors were scarcely more effective in the face of infectious disease in 1880 than their counterparts had been in 1830," (Stowe 2004:8). Influenza and pneumonia were the two most lethal diseases of the century, tuberculosis coming in second, gastrointestinal ailments third—summer diarrhea, also known as "summer complaint," was ubiquitous in the South—followed

closely by typhoid fever (Young 1961:157). Both orthodox and alternative medicine were faced with a prevalence of indigestion, which they attributed to the American diet and lifestyle, leading to a large market for laxative products. Many patent medicine advertisements, in fact, pointed to indigestion as the root cause of *all* disease, including epidemic fevers (Young 1961:77-78).

Mistrust of doctors was widespread, and most Americans preferred treatment from family members, home remedies, patent medicines, and "quack" doctors who offered, in general, much milder treatments such as homeopathic, botanical, or hydropathic remedies (Dary 2008; Stowe 2004; Young 1961). Even "highly emotional popular religion put doctors in a bad light," (Dary 2008:250) in the first half of the century, and not until the beginning of the 20th century, with significant advances in medical science, was the public—and the government—finally convinced that "orthodoxy's institution-based, biomedical model of medicine offered the most promise for future success," (Stowe 2004:6).

Allopathic Medicine

Mainstream medicine of the 19th century relied largely on two treatments: blood-letting and purging. The latter was accomplished by giving the patient high dosages of mineral-based drugs, often containing mercury or other toxic heavy metals. Even at the time, the horrific results of such drugs were criticized, both within the traditional medical community and by practitioners of alternative medicine (Dary 2008:249-250; Stowe 2004:8; Young 1961:56). Allopathic prescriptions caused, at the very least,

acute diarrhea, vomiting to exhaustion, and elevated temperature. And these were only the visible surface of a deeper physiological distress wrought by such drugs, ranging from impairment of nutrition to rapid dehydration, shock, and, over longer periods of time, the buildup in the

body of harmful minerals, not to mention the risk of addiction to drugs such as morphine (Stowe 2004:8).

Homeopathy and "Taking the Waters"

The initial rise of mineral spring resorts in the 1830s followed right on the heels of Dr. John Franklin Gray's 1828 opening of the first homeopathic medical practice in the United States. Homeopathic institutes and mineral spring health resorts both gained popularity over conventional medicine throughout the 19th century (Coleman 1942; Young 1961:56). The homeopathic movement split into several sects after it was introduced, including "botanical" medicine (popular for its mildness compared to the mainstream purgatives of the time) and hydrotherapy (later, hydropathy)—the "intensive application of water internally and externally" through three types of treatments: "applying water by bath, applying water to a particular part of the body, and cleaning the body internally by drinking lots of water or by injecting it," (Dary 2008:278). Hydropathy claimed that the content of the water made no difference, while spring-based health spas claimed that it was precisely the contents of the water which made the waters effective; however, both hydropathy and health resorts held in common basic methods and the principle of "democratization of medicine," in which patients had a sense of control over their own health (Chambers 2002:65; Lewis 2001:75).

The claim that spring resorts served a public who knew the waters had no curative powers can be found in both modern and historical sources. According to these sources, the social atmosphere and entertainments were, even in the 1830s, the sole draw of the health resorts, based on the fact that many—if not most—guests were in good health during the watering season (Chambers 2002:53-78). Certainly the entertainments and the break from normal routines would

have been an attraction to guests; otherwise, the resort managers would not have bothered with the expenses of building and advertising new amenities to their resorts.

Charlene M. Boyer Lewis (2001:58-59) argues, however, that resort-goers believed in the waters' ability to cure specific diseases, but also in the waters' ability to *preserve* health and *prevent* disease, even that the "spa regimen...stealed them for the coming winter." Families traveled to the springs together, even if only one family member was in "need" of the springs. Well-to-do families brought their servants or slaves, who joined the hotel staff for the duration of their stay or, if they were suffering from illnesses, even took the waters themselves (Coleman 1942:8; McDowell 2014 [1995]). Changes of scene were often recommended by physicians to their patients for both physical and emotional ailments (such as grief and depression), and many Southern families also visited spring resorts to escape the almost annual epidemic outbreaks of malaria, cholera, typhoid, and yellow fever (Chambers 2002:71-72; Lewis 2001:60-61, 65-68). In addition, James Harvey Young (1961:68-69) writes that the 19th century advertising campaigns of patent medicines were aimed at convincing the public that the most general (even normal) conditions were actually illnesses, so that "People who where not really sick were frightened into the medicine habit." It stands to reason that people who believed in the medicinal value of mineral waters would have turned, not only to patent medicines, but also to health spas, to "cure" themselves. Given the scent, flavor, and effects of sulfur water, in particular, it is difficult to explain why any guest would willingly follow a regimen requiring multiple daily doses of the water if they did not believe in its curative properties.

Medicinal Use of the Waters

Resorts advertised the chemical contents of their springs, listing specific conditions and diseases the waters were best at curing. The three main types of springs discussed in the literature are saline, chalybeate [iron], and sulfur waters. Of course, many springs contained combinations of these and other chemical components, and sulfur springs were further classified as red, blue, white, black, and green sulfur (see Table 3). How the waters were classified by resort owners' advertisements, however, was more significant for the health spa business and its patrons than the actual chemical contents—in 1874, medical doctor George Walton (33) writes of mineral waters, "A chemical classification...does not convey a definite idea of the medical action of a water." Another medical doctor, in 1910 (Yeo 1910:33-34), states that the benefits of a resort's climate, social atmosphere, meal quality, and varieties of exercise are likely more effective on a patient's health than anything the water might contain. Yeo (1910:34) speculates that "feebly mineralised" or even "inert" waters, well-advertised by a resort and believed in by a patient, could therefore be "attended with unexpectedly good results."

Saline waters were used in 17th and 18th century salt production for food seasoning and preservation, but were also increasingly used to produce Epsom salts for medicinal purposes. Chalybeate and sulfur waters were both believed to have curative properties, and although some of these waters were bottled and marketed, others—especially strong chalybeate or black sulfur—were considered fully effective only if consumed fresh, at the site of the spring (Bell 1831:455; Peter 1885:166). A combination of sulfur and magnesia was considered "decidedly medicinal;" it had a similar effect to Epsom salt (used internally as a purgative). However, since "epsom spring waters" produced a milder reaction than pure Epsom salts (acting "rather as laxatives than as purgatives,") they were considered useful in the treatment of a wider variety of illnesses (Palmer 1909:204-205).

According to historian J. Wilson Coleman, Jr., "salt and salt-sulfur baths, where the patient could be 'steamed out' were very popular at these Kentucky resorts and were prescribed for the treatment of a number of ailments," (1942:14). Common treatments at watering places included immersion pools, hot or cold tub baths, steam or "vapor" baths, massage, showers, spout bathing, and imbibing of the waters (Bell 1831:112; Coleman 1942:14; Wrobel 1999). Outdoor exercise in the fresh air, from walking in the resort park to playing croquet or tennis with other guests, was an important part of both the social life and the prescribed health regimen of the spas (Bell 1831:112; Wrobel 1999; Yeo 1910:34).

Medical Uses of Mineral Water Types (Table 3)

Mineral Content	19th Century Medicinal Uses
Salts	Laxative or Purgative [depending on concentration and the presence of other minerals]. Treatment of asthma, rheumatism, and constipation. Recommended for the lungs, digestive system, skin, and joints. Used in bathing and through consumption.
Alum (Sulfate of alumina)	Laxative. Astringent. Treatment of chronic diarrhea; bronchitis and whooping cough; and lead poisoning.
Epsom (Sulfate of magnesia)	Purgative. Treatment of skin conditions and kidney problems.
Chalybeate "Iron water"	Laxative. Treatment of anemia, intestinal worms, hysteria, sterility, and painful or irregular menstruation. Recommended for use during recovery from hemorrhages; illnesses including tuberculosis and bronchitis which result in hemoptysis [expulsion of blood through coughing]; edema; gonorrhea and fluor albus [inflammation of the female genitalia]. Usually consumed, but sometimes used for bathing.
Sulfur	Laxative or Purgative [depending on concentration and the presence of other minerals]. Treatment of any chronic inflammation; metal poisoning; scurvy; apoplexy [cerebral hemorrhage or stroke]; gout and rheumatism; venereal diseases including syphilis and gonorrhea; constipation; chronic bronchitis; tuberculosis; hysteria; and hepatic torpor [defective metabolism of the liver]. Recommended for the heart and arteries. Used in baths (including vapor baths), and through consumption.
Black	(Color derived from reaction of iron carbonate with hydrogen sulfide gas)
Blue	Stimulant. (Color derived from suspension of clay or slate in water)
Green	(Color derived from the presence of bacteria)
Red	Sedative. (Two types: one containing sulfate of iron, the other deriving its color from the presence of <i>Gallionella ferruginea</i> [an iron-oxidizing bacterium])
White	Laxative. Stimulant. Treatment of indigestion, constipation, and heartburn; diabetes; kidney stones; gout. (Alkaline saline-sulfur)
Saline-Sulfur	Stimulant. Treatment of tuberculosis; rheumatism and gout; chronic skin diseases; chronic inflammations of the stomach, intestines, liver, and urinary tract; urinary tract infection and lithaemia [urinary acid in the bloodstream]
Magnesium	Laxative. Treatment of heartburn and indigestion.
Natural Oil	Laxative.

Sources: Bell 1831; Coleman 1942; Dary 2008; KGS 1905; Keating and Hamilton 1882; Lewis 2001; Matson 1909; Palmer 1909; Walton 1874; Yeo 1910

Patent Medicine, Opiates, and Sulfur Springs

The patent medicine (or "nostrum") business exploded over the course of the 19th century. Between 1800 and 1850, the number of patent medicines listed in drug catalogues rose from roughly 90 brand names to over 600 (Dary 2008:250-251). According to the 1859 census, the patent medicine industry's output valued at \$3,500,000; by the 1904 census it had reached \$74,500,000—more than 20 times its 1859 value (Stowe 2004:110). In part, the industry owed its success to national population growth and the corresponding increase in newspapers, which allowed the patent medicine makers—as well as the owners of mineral springs—to advertise their cures to a national audience (Chambers 2002:58-59; Dary 2008:250-263).

The Civil War benefited the patent medicine business in several ways. First, the established, trust-based relationships which had existed between families and their physicians were disrupted by the war. With physicians already on shaky ground with the public, this disruption further alienated patients from doctors (Stowe 2004:260). Second, the most common causes of death and disease among soldiers during the war were bowel complaints, especially dysentery. Many soldiers self-medicated with patent formulas in the field, although some mistakenly took laxatives which aggravated their symptoms (Young 1961:95). Soldiers suffering from bowel complaints were also prescribed opiates—"the most common and effective treatment"—in the form of pills or laudanum by army doctors (Schroeder-Lein 2008:85-87). Those who recovered and survived the war continued to use the medicines to which their army doctors and fellow soldiers had introduced them, out of need (in the case of those who had contracted chronic diarrhea), habit or, perhaps, addiction (Schroeder-Lein 2008:86; Young 1961:95-97). As James Harvey Young states, "Thousands of soldiers returned to civilian life with ruined digestions, malaria, wounds, emotional disturbances, and other ailments that were to

cause them trouble for the rest of their lives. Nostrum makers were not unaware of this," (1961:97). These soldiers provided lifelong customers for the patent medicine industry, and the post-war journalism boom gave the industry the advertising space to take full advantage of the situation (Young 1961:100-101). Both Glenna R. Schroeder-Lein (2008:87) and Dr. David M. Musto (2002:213) refute the idea that veteran addicts factored significantly in the rise of opiate use following the Civil War. Musto states, "The two main factors cited are the medical route to opiates, whether by prescription or in the increasing numbers of patent remedies, and the alcohol temperance movement, which...leads former drinkers to search for alternative 'stimulants,'" (Musto 2002:213).

Many patent medicine formulas contained intoxicating and/or potentially dangerous substances (see Figure 6) such as alcohol, opium or opiate derivatives (including morphine and heroin), hashish, cocaine, and even chloroform and mercury—and since there was no law that the ingredients had to be listed, many members of the temperance movement were unaware that they were ingesting alcohol and narcotics as "medicine" (Dary 2008:250; Kravetz 2001:1; Young 1961:221-223). As opponents of patent medicine gained political and popular support, promotional materials increasingly denied the alcoholic and narcotic content of their formulas, even when chemists confronted them with analysis to the contrary (Young 1961:223). Narcotics were by no means exclusive to patent medicine makers; opium, laudanum, morphine, and heroin were all prescribed by mainstream physicians as well, often without the patient being warned of the danger of addiction (Dary 2008; Stowe 2004; Musto 2002:251).

Laudanum and paregoric, both tinctures of opium dissolved in alcohol, were easily available and widely used in the 19th century by both adults and children as a painkiller, sedative, and cure for bowel complaints (Schroeder-Lein 2008:179). Pure opium could be taken

in powdered or pill form, and was prescribed for a wide variety of ailments, including asthma, tuberculosis, dysentery, and cholera (a disease that reached epidemic proportions multiple times in the first half of the 19th century in Kentucky). Morphine, isolated from opium in 1804, was the strongest opiate painkiller available until heroin was synthesized in 1874, and "could be administered in three ways: as a pill taken orally, as a powder dusted directly on the wound or placed in it with a fingertip, or as a fluid injected from a syringe into a small cut," (Schroeder-Lein 2008:218, 240; Musto 2002:183). Because there was no Federal control over the use and sale of narcotics in America, 19th century medicine existed in "an era of wide availability, unrestrained advertising claims, and an initial enthusiasm for the purified substances that was unsullied by any substantial doubts or fear," (Musto 2002:184).

Take of—

Sulph. morphia.....	24 gr.
Tinct. cannabis indica	6 dr.
Chloroform	6 drops.
Tinct. capsici.....	12 drops.
Oil peppermint	12 drops.
Dil. hydrocyanic acid.....	72 drops.
Alcohol	3½ oz.
Glycerine	3½ oz.

Figure 6. Directions for mixing Chlorodyne, one of the most common prescriptions of the 19th century; there were many variations of the basic formula (Oleson 1892:42-43).

Opium was used as a pain killer, antispasmodic [muscle relaxant], sedative, and "to check excessive secretion," (Keating 1892:531). According to Dr. John M. Keating (1892:530), the physical effects on the body of a "medium dose" of opium included increased heart rate and blood pressure, contraction of the pupil, and arrest of "secretions," with stimulation of the brain followed by sleep; he states that "headache, depression, and constipation follow the sleep." A "full dose," [apparently the standard medical dose] caused nausea, vomiting, and diaphoresis [sweating]; lowered heart rate, temperature, and respiration; and caused itching, "stupor

(succeeding in some cases to delirium)," and slowed nerve-conduction; with after-effects including vertigo and loss of appetite (*ibid.* 1892:530-531). Once addicted to opium or an opium derivative, a patient could have exhibited any of the following symptoms of frequent opiate use and addiction: depression, psychosis, delirium, mania, or irritability; hypersomnia [sleeping too much]; sexual dysfunction; nausea or vomiting; "respiratory depression, smooth muscle contraction (including the ureters and the bile ducts), constipation, and changes in blood pressure, heart rate, and body temperature," (Sadock and Sadock 2007:447-448). Withdrawal from opium and opium derivatives:

consists of severe muscle cramps and bone aches, profuse diarrhea, abdominal cramps, rhinorrhea [runny nose], lacrimation [tear flow], piloerection or gooseflesh...fever ...hypertension, tachycardia [increased heart rate], and temperature dysregulation, including hypothermia and hyperthermia [fever]...Residual symptoms—such as insomnia, bradycardia [slow heart rate], temperature dysregulation...can persist for months after withdrawal. Associated features...include restlessness, irritability, depression, tremor, weakness, nausea, and vomiting (Sadock and Sadock 2007:447).

Many of the symptoms associated with the use and subsequent withdrawal from opiates, then, could easily have been misdiagnosed in the 19th century as infectious disease (fever, vomiting, runny nose and eyes, etc.), psychological impairment (restlessness, depression, delirium, irritability, etc.), so-called general debility (hypersomnia, weakness, tremor, etc.), or a chronic condition (severe muscle and bone aches could be mistaken for gout or rheumatism, for example).

The rising use of opiates coincides with the second wave of popularity in mineral spring resorts in the 1870s through the 1890s. Given that people believed in the curative capabilities of mineral springs and the healthy climates of the resorts which extolled them, and given that the symptoms of frequent opiate use and withdrawal were likely misdiagnosed, it is possible that the

correlation is more than coincidental. Furthermore, virtually all the mineral waters mentioned in the literature act as purgatives or laxatives; this would have counteracted the most common side effect of opiate use: constipation (Sadock and Sadock 2007:447). Ironically, since the number of patent laxatives increased during this same time period, it may be the case that the industry which boosted the popularity of spring resorts in the 1890s is the same industry which helped put the resorts out of business (Coleman 1942:24).

Federal regulation of opiates began in 1906, when the Pure Food and Drug Act was passed by Congress, at the insistence of the medical community (Junod 2008). The law did not actually forbid over-the-counter sale of addictive substances, but "required manufacturers to list the presence and amount of selected dangerous or addictive substances such as heroin, alcohol, morphine, and cocaine on the product's label," (Dary 2008:271-272). Loopholes allowed patent medicine makers to continue to omit information on their labels, however, until the law was amended in 1912 to require warnings and directions for use (Dary 2009:271-272; Junod 2008).

By the 1920s, at least 40% of Kentucky spring resorts were closed, and after the 1938 restriction against over-the-counter medicines containing opiates, historic literature and newspapers alike refer to mineral spring resorts as no more than "pleasant memories" (Coleman 1942; *Courier-Journal* 1927-1943; Dary 2008:271-272; Rennick 1984; Turner and Anderson 2006; Wells and Madigan 1983).

Literature Review

Historic literature and maps, geological surveys and maps, and mapping software from TOPO! and Google Earth were consulted in order to collect information regarding the mineral

spring resorts of Kentucky. The purpose of the literature review was both to document the historical background of the 19th century health resort sites and to attempt to locate the springs and the resort sites associated with them. Examination of historic literature is an important step in the archaeological process, as it can yield information about what types of buildings were at a site, where they were located in relation to one another, when they were built and for how long they were in use, and what happened to them after they were no longer in use. This last item is particularly important to archaeology, because the fate of a structure after its abandonment or destruction affects the preservation—a building which burns to the ground and is left alone may have excellent preservation, as may be the case with the hotels at Grayson Springs (see Results section). On the other hand, a building which began as a hotel and is later used as a hospital may languish over the decades into disrepair and decay, or may be razed to make way for the new hospital building that replaces it.

The literature also provides information about what the landscape was used for and how the surrounding environment and the resort affected one another over time, as well as how the layout and natural resources of the resort may have affected its popularity. For example, if several springs of different mineral types are located in close proximity to one another, does the resort advertise that fact as a "draw" to its potential patrons? If a resort has the means and the space to run its own farm to provide fresh produce and meat at the hotel dining table, as Cerulean Springs did (see Results section), is that advertised? If a resort is close enough to water to offer boating, is it also in danger of flooding (see Sulphur Well in the Mississippian Plateau, Metcalfe County)?

A basic understanding of the site, its historical context and function, and, of course, its location helps the archaeologist know what to look for in the field, and how to interpret what is found there.

The Bluegrass and Knobs Regions

BATH COUNTY

Crook (1899:260) refers to a Young's Springs in Bath County, but gives no further details.

Bath County's Olympia Springs (also known as Olympian Springs), on the Licking River, is one of the most well-known Kentucky resorts. With over ten springs of saline-sulfur, chalybeate, and white sulfur waters, a boarding house and cabins were built on the site (known as Mud Lick or Mud Lick Springs) as early as 1791 (Collins 1976 [1874]:47; Crook 1899:257; Moorman 1873:185-186; Peale 1886:108; Wells and Madigan 1983). As of the early 1870s, the grounds included a black sulfur spring, a saline-sulfur well (diuretic but not laxative), a white sulfur spring about half a mile from the well (which began flowing after the 1811 New Madrid Earthquake), and from a pair of chalybeate springs (about 40 yards apart, half a mile from the well) (Moorman 1873:185-186; Walton 1874:196-197).

The springs were accessible by the Lexington and Big Sandy Railroad, which stopped at Mount Sterling; from there, a stagecoach brought guests to the springs, 35 miles from the station; (Crook 1899: 257; Walton 1874:196).

Colonel Thomas Hart changed the name to Olympian Springs when he purchased the property in 1800 and established the first hotel (with a dining room large enough for 100 guests). Three years later, Kentucky's first stage route was established between Lexington and Olympian

Springs; by 1804, according to a letter from Henry Clay to Colonel Hart, "The Olympian Springs are the constant topic of conversation. 'Do you not intend to go there this season?' is a question put to everyone, and nobody answers it in the negative," (Collins 1976 [1874]:514; McDowell 2014 [1995]; Rennick 1984:221).

Olympian Springs was sold to Cuthbert Banks (who added buildings not specified in the literature) in 1807. During the War of 1812, the 28th Infantry under Colonel Thomas Dye Owings camped at the springs; the Colonel directed the building of "most of the cabins" at the springs, which he purchased from Banks (Coleman 1942:4; Collins 1976 [1874]:47; Wells and Madigan 1983). Owings leased the property to a number of proprietors (J. P. Wagnon, Elisha Catlett, George Coleman, Edward and George Owings, Mathew Maury, Thomas I. Garrett, Daniel P. and Thomas Moseley, Sr., and George and John Landsdowne) until George Landsdowne purchased the resort in 1830 (Coleman 1942:4). During the 1833 cholera epidemic, residents of Lexington fled to the nearby hotel at Olympia Springs (Coleman 1942:21; Wells and Madigan 1983).

On October 19, 1864, during a Civil War battle at Olympia Springs, many of the cabins were burned, but the resort recovered (Collins 1976 [1874]:47). After the Civil War, the lost cabins were replaced and the bathing rooms renovated; the resort's amenities and activities included cards, billiards, horse racing, music, dancing, bathing, swings, riding, and hunting (a hunting dog pack was kept on site for guests). The Chesapeake and Ohio Railroad stopped near Olympia, and the resort kept hacks and omnibuses waiting at the station to transport guests (Coleman 1942:3, 22; Collins 1976 [1874]:47). The resort continued operation into the 1940s, but according to the literature as of 1984, "nothing remains of this 19th century vacation and health resort," (Rennick 1984:221).

Figure 7. Olympia Springs Hotel, 1912 (Kentucky Historical Society 2015).

BOONE COUNTY

In Boone County, Big Bone Lick is best known for its Pleistocene megafauna remains, first documented in 1729 by Charles Lemoyne de Longueil, a French explorer (Rennick 1984:23-24). However, the lick was also a site of salt manufacture by Native Americans until 1756 (after which European settlers used it for salt production until 1812), and of a 19th century health resort (Collins 1976 [1874]:52; Wells and Madigan 1983). Three alkaline saline-sulfur springs served the resort, as well as supplying water for sale: the Big Bone Spring, the Mastodon Spring, and the American Epsom Spring (Collins 1976 [1874]:52; Peale 1886:109; Walton 1874:193-194).

The "resort" began as a tavern with forested hunting grounds and medicinal baths in 1815; by 1831, a large, U-shaped hotel with its own post office stood just south of the intersection of the Louisville-Cincinnati Road and Landing Road (Duvall 2011:7, 11). Steamboat

travel on the Ohio River made the hotel accessible via Hamilton Landing, and a stagecoach route was started in 1842 (*ibid.* 2011:2, 13). The hotel closed five years later, and burned down soon afterward. Not until 1866 (after the completion of the Louisville and Nashville Railroad, local road improvements, and the end of the Civil War) was a new two-story hotel, the Clay House (also known as Big Bone Springs Hotel), erected, a quarter mile away from the original hotel site. A ballroom and a series of therapeutic bathing rooms (offering hot or cold sulfur baths), as well as two on-site physicians (Drs. John E. Stevenson and John A. Wood) were among the amenities offered at the hotel (*ibid.* 2011:15, 17; Walton 1847:193). In spite of access to the Louisville and Nashville Railroad seven miles from the resort, by the turn of the 20th century, Big Bone Springs Hotel had fallen into disrepair, and even the Big Bone Springs Mineral Water Company (formed in 1916) failed to bring revenue for the springs (Crook 1899:250; Duvall 2011: 21-22).

BOYLE COUNTY

Boyle County was home to four mineral spring resorts (Rochester Springs, Alum Springs, Mitchell Spring, and Linnietta Spring), according to the literature. All four were included in the reconnaissance sample (see Results section).

BULLITT COUNTY

Bullitt County's Paroquet Springs (also known as McGee's Lick, Parakeet Lick, or Paroquette Springs) were used commercially for salt production from 1803 until, by the 1820s, the owners of the salt works decided to concentrate their efforts on Bullitts Lick, which had much higher quality salt water. Located near Shepherdsville, the sulfur and salt Paroquet springs

were improved by the addition of a springhouse with a basin, fences and a pair of gates leading to the springhouse, and the construction of a house and outbuildings on the property. Reuben D. N. Morgan, a Shepherdsville attorney, obtained chemical and medical analyses of the waters (three springs, including a large, strong sulfur spring and two springs containing salt, magnesia, and traces of iron) and advertised them in the hope of turning Paroquet Springs into a noteworthy watering place (Collins 1976 [1874]:100; McDowell 2014 [1995]; Peale 1886:108). The waters were advertised for the treatment of tuberculosis, asthma, bronchitis, jaundice, chronic rheumatism, gout, dropsy, neuralgia, indigestion, "diseases of the stomach, liver and kidneys, as well as...skin diseases...'brain fever,' enlargement of the joints...'bilious disorders,' general debility, 'female weakness,'...'autumnal fevers,'" and were "guaranteed" to cure malaria (Coleman 1942:13).

John D. Colmesnil (a Haitian-born Louisville merchant) read the advertisements and purchased the land in 1826. By that time, Morgan had already moved away to Meade County and the property had changed hands several times; it is unclear whether Colmesnil's construction of the hotel and improvement of extant outbuildings (a smokehouse, kitchen, and stable), beginning in 1827, were even on the same land where the house and outbuildings had been built earlier.

Advertising for accommodations sufficient for 200-250 guests began June 15, 1839. The grounds included wooded paths through a 20-acre grove, bathhouses, access to rowing and sailing boats on the Salt River, a dining hall (86 feet by 40 feet), a ballroom (86 feet by 40 feet), and cottages, as well as the main hotel (guest rooms were 16 feet square "with lofty ceilings with thorough ventilation;" connected rooms were available for families) (Collins 1976 [1874]:100; McDowell 2014 [1995]). By 1844, Colmesnil was advertising that "warm showers and vapor

baths can be taken at any hour of the day," and that fishing, hunting, bowling, cards, and dancing were among the activities offered by his resort (McDowell 2014 [1995]).

Occupation and destruction of the buildings by Union soldiers during the Civil War shut the business down, though the Colmesnills remained on the premises throughout the war. They sold the property in 1871 (McDowell 2014 [1995]). When Lewis Collins (1976 [1874]:100) published his 1874 *History of Kentucky*, Paroquet Springs was described as "a fine and popular watering-place, with superior accommodations for 800 guests, and grounds very attractive and beautifully improved" by the work of two "celebrated florists" and the addition of a driving park (McDowell 2014 [1995]). Advertisements mentioned brass and string bands hired for the season, billiards, croquet, tennis, bowling, swings, "and all other innocent amusements," (*ibid.* 2014 [1995]).

Multiple bankruptcies in the 1870s caused the property to change hands several times. In 1879, a fire destroyed the main hotel, resulting in the decline of the resort's popularity, although it continued to advertise its grounds and attractions, as well as its proximity (half a mile) to the Louisville and Nashville train depot. By the end of the 20th century, the springs were used more as a community gathering place than as a health spa; Interstate 65 and the Paroquet Springs Shopping Center now stand on the former hotel grounds (McDowell 2014 [1995]).

CLARK COUNTY

Clark County's Oil Springs is mentioned by J. Winston Coleman, Jr. (1942:23) as the site of multiple mineral and rock oil springs. Coleman states that a resort operated at Oil Springs during the 1890s.

FLEMING COUNTY

Ten miles from Flemingsburg, Fox Springs (six sulfur springs and one chalybeate spring) became a popular resort after the end of the Civil War; its waters were said to be mildly diuretic and good for the skin (Collins 1976 [1874]; Crook 1899:254; Peale 1886:108; Walton 1874:197).

FRANKLIN COUNTY

Franklin Springs (Franklin County), six miles from Frankfort, operated as a resort under T. N. Lindsey and Company until 1845, when it was purchased at public auction by Colonel R. T. P. Allen and converted into a boys' military academy (Coleman 1942:17).

GARRARD COUNTY

Garrard County had two spring resorts, located about one mile apart and connected by a woodland path. Greenbriar Springs was a resort abandoned by 1903, near the Lincoln-Garrard county line (Haselden 1977).

More information is available regarding Dripping Springs (late 1800s to mid-1920s), located five miles east of the famous Crab Orchard Springs (Lincoln County) at the foot of a large knob called "Old Baldy" near "the point where Indian Branch empties into Fall Lick Creek" (Haselden 1977). Chalybeate, sulfur, and magnesium springs were present, with five springs total (Peale 1886:114).

To the left of the hotel entrance was a hitching and loading area, with a large stable/barn down a road to the left. A garden centered around a large rock in front of the hotel: "columbine, touch-me-nots, sweet peas and scarlet sage. Morning glories, hops and other climbing vines, spiraled up strings to the second floor," (Haselden 1977). Jane Haselden (1977) describes the

twelve-room Dripping Springs Hotel as a two-story building of white-washed planking and red trim, with a hipped roof and a wrap-around porch and wrap-around balcony. The hotel office was on the first floor, adjacent to the main staircase leading to the second story; another stairway (possibly a servants' staircase) was located near the dining room (along with the kitchen, attached at a 30 degree angle to the building). A 30 foot square open pavilion with plank seating stood at the back of the building. Each guest room had two windows, a lamp with a tin reflector, and "comfortable space for a double bed, a cot, bed table, dressing table, mirror and two straight chairs," (*ibid.* 1977). There were no closets, electricity, or indoor bathrooms; the privies were located beyond the servants' quarters at the back of the hotel (beyond the dining room and kitchen area), hidden by the curve of a hill from the guests' windows. There were separate privies for men, women, and children.

The cave spring (chalybeate) was located immediately beyond the pavilion, its flow directed through a pipe to a "pulpit" on the pavilion; overflow went to a barrel-sized hole in the rock floor, which was used to refrigerate fresh produce, then ran under the pavilion, cooling the outdoor area in the summer. Further into the cave, a natural rock formation held chalybeate water (also used for refrigeration), but to the right a magnesium spring pooled white water over the surrounding rock (Haselden 1977).

Aside from the hotel and its outbuildings, the resort grounds included three two-room cottages (one above the spring cave, one higher up "Old Baldy", and one above the croquet court), a racetrack, and a croquet field to the left of the hotel (Coleman 1942; Haselden 1977). Transportation to and from the hotel must have been rugged, as Haselden (1977) states, "After a big rain, there was no way of getting in or out except on horseback."

GRANT COUNTY

Grant County's Dry Ridge Springs Resort is mentioned in Coleman's "Old Kentucky Watering Places" (1942:23). It is unclear whether this site was separate from Carlsbad Springs, located in Dry Ridge, or if they were the same resort under two different names. The 40-room Carlsbad Springs Hotel (owned by W.W. Scott) was destroyed by fire on February 25, 1927. There were no fatalities, though 30 guests were in the hotel when it burned; the loss was estimated at \$350,000 (*Louisville Herald-Post* 1927). A newer hotel must have been erected, as a 1930 postcard (see Figure 8, below) from the Kentucky Historical Society shows a busy Carlsbad Springs Hotel.

Figure 8. The Kentucky Carlsbad Springs Hotel, Dry Ridge, Kentucky (Kentucky Historical Society 2015).

HENRY COUNTY

Henry County was home to Drennon Springs, included in the reconnaissance sample (see Results section).

JEFFERSON COUNTY

In Jefferson County, the 40-room Blue Rock Hotel in Fisherville was built in 1905 by Stephen Beard, when a well of water containing 16 mineral constituents was discovered. A lake and fountain were constructed to direct the flow of water. The spa and a bottling company (Blue Rock Natural Mineral Water Company) operated until the waters disappeared in 1921 (possibly due to the construction of the mineral water lake). The hotel was demolished in 1939, after a fire (Jobson 1977:220-221; Kramer 1995:79-81).

Harris Health Haven, a health resort/sanatorium centered around five mineral wells, opened in St. Matthews, Louisville, in March of 1926 (*Louisville Herald* 1926). Owner William A. Harris (also known as "Kokomo Bill") had been operating a "small hospital" out of his own residence, the basement of which had been converted into "treatment rooms" in 1924 (*Louisville Herald-Post* 1926). Native American artifacts found on the grounds led to speculation that a village had once stood at the site of the sanatorium (*ibid.* 1926).

JESSAMINE COUNTY

Jessamine County's Keene Springs Hotel was included in the reconnaissance sample (see Results section).

KENTON COUNTY

In Kenton County, Keo-Me-Zu Springs operated as a small resort under J. S. Haynes. Its three springs (Alpha Spring, Bonanza Spring, and Climax Spring) were within a 20-foot radius,

but contained different mineral compositions, including at least one alum spring and one chalybeate spring (Matson 1909:88).

Latonia Springs (or Lettonian Springs) at Latonia Lakes were five mineral springs, including weak salt and sulfur waters. The resort built up from a community of cottages on the lakes, near the Latonia race track, four miles from Covington (Collins 1976 [1874]:442; Crook 1899:255; Rennick 1984:166).

LEWIS COUNTY

Lewis County's Glen Springs and Esculapia Springs are included in the reconnaissance sample (see Results section).

A third resort in Lewis County, White Sulphur Springs, is mentioned by Coleman (1942:17) as a local watering place; no further details are given.

LINCOLN COUNTY

Lincoln County's Crab Orchard Springs have been investigated by the Kentucky Archaeological Survey, Kentucky Heritage Council, and the University of Kentucky Department of Anthropology (see Prior Archaeological Research section).

One mile northeast of Crab Orchard, Green Briar Springs (owned by D. G. Slaughter) "opened for business July 1, 1890, with a capacity for 150 guests," and included among its activities fox-hunting, fishing, bathing, and dancing (Coleman 1942:23).

MADISON COUNTY

Madison County's Mallory Springs is listed as "a watering place of the 1890s" (Coleman 1942:23). No further details are given.

MERCER COUNTY

In Mercer County, Harrodsburg Springs (first known as Sutton Spring) and Greenville (or Grenville) Springs were combined into the large resort of Graham Springs in 1828. The resorts were accessible by steamboat and stagecoach, located half a mile from Harrodsburg. In the 1870s, the Kentucky Central Railroad brought guests to Nicholasville, 25 miles from the hotel, where a stagecoach would meet and take visitors on to Harrodsburg (Walton 1874:264).

One of the springs, located in the garden of Harrodsburg Springs, was considered a saline purgative, containing "sulphates of magnesia and soda, carbonates of magnesia and iron, and sulphate of lime...with a slight chalybeate impregnation," comparable to a weak Epsom solution, (Bell 1831:517; Crook 1899:255). Whether the Saloon Spring at Harrodsburg was the same spring is not clear; the Saloon Spring consisted of the same constituents, however. The Greenville Spring was sulfur-magnesia and considered to be an antacid. Both springs were considered good for the bowels, kidneys, liver, digestion, appetite, and skin, as well as being a laxative and sedative (Walton 1874:264). The waters were used to cure indigestion, urinary disorders, skin diseases, dropsy [edema], rheumatism, and bone and joint inflammations, and supposedly even improved the mood and strength of the sick, but it was believed that these springs would aggravate heart and lung conditions (Moorman 1873:183-184).

Greenville Springs opened in the first decade of the 19th century (owner Tobias Eastland), with nearly 1500 guests (including physicians) registered over the course of the 1808 season. The following year, new buildings were added to the grounds, including a hotel with a

112-foot long porch and a ballroom, as well as stables. The resort was purchased in 1812 by Henry Palmer, who further improved the grounds over the next seven year, adding bathhouses, a bar of "extensive proportions," cottages (extending the capacity to 300 guests at a time), a large dining room, a theatre (advertisements claimed a "regular theatrical company of respectable performers"), and a pleasure garden (Coleman 1942:5-7; McDowell 2014 [1995]). The property was purchased by Dr. Christopher Graham in the summer of 1827.

Figure 9. View of Graham Springs grounds (Mercer County) with the springhouse in the foreground and the hotel visible through the tree line to the upper right (Armstrong 2013:81).

Captain David Sutton opened Harrodsburg Springs as a spa in 1807, managed by John G. Chiles until Dr. Christopher Graham purchased the property (60-70 acres) for \$10,000 in November of 1828. Under Graham's management, the two resorts were renamed Graham Springs (though sometimes were still referred to as Harrodsburg Springs), and improvements and expansion began (Coleman 1942:5-7). In 1829, the grounds included a bandstand, a ballroom (50

by 100 feet), bathhouses, two rows of cabins, a battledore [badminton] court, and a bowling alley. The new brick hotel (1842-1843) (see Figure 10) was four stories high and capable of accommodating 1,000 guests, featuring a long colonnaded promenade, a second ballroom (50 by 100 feet), a 150-person dining room, an "elegant saloon," and a gaming room for chess and backgammon.

Figure 10. Harrodsburg Springs, became U.S. Military Asylum, May 8, 1853 (Kentucky Historical Society 2015).

The grounds had been expanded to 280 acres by 1850, with an artificial lake, a grotto, an ice-house, an aqueduct and reservoir, walking and riding paths, three *additional* bowling alleys, bathhouses, warm showers and steam rooms, whole avenues of private cottages for wealthy guests, and a boardwalk through a grove of locust trees led from the hotel to the springs (*ibid.* 1942:8-9; Wrobel 1999). Octagonal gazebos stood atop the springhouses at the Saloon Spring and Graham's Spring; water was carried by employees from the springs to "treatment rooms" at the hotel, equipped with showers and tub baths (Armstrong 2013:83-85). A "professor of

dancing" was hired to conduct cotillion parties, fancy dress and masquerade balls were held in the two ballrooms, and Graham owned a band of slave musicians who provided entertainment at the springs during the summer months and were hired out to perform in Louisville during the winter months (three of the musicians escaped to Canada in 1841) (Armstrong 2013:80; Coleman 1942:14; McDowell 2014 [1995]).

Figure 11. Springhouse at Graham Springs (Armstrong 2013:83).

Why Graham sold the property to the United States Government in 1853 is not clear in the literature; it was purchased for \$100,000 for use as a military asylum for disabled veterans, but fire destroyed the main buildings in 1859 and the patients were moved to a Washington, D.C. asylum. Two years later, it was sold for \$120,000 to Captain Philip Thompson, whose intent to turn the property back into a health resort was thwarted by the outbreak of the Civil War. In 1862, the ballroom and cottages of Graham Springs were used as a hospital for wounded soldiers; many of the buildings burned during the war, after which the grounds were converted to pastures and rented out by the United States Government. In 1887, the property auctioned for

\$19,001 to Edgar H. Gaither who, in turn, sold it to the Kentucky Real Estate and Improvement Association the following year (Coleman 1942:20-23; Collins 1976 [1874]:66, 80, 92; Wells and Madigan 1983). A brick residence was built on the grounds in 1888 for John Lewis Cassell, which was passed on to Ben Casey Allin (Armstrong 2013:81; Coleman 1942:23). Allin reopened Graham Springs in 1911 and continued operation until 1934, when the Great Depression shut down the business. The property was sold to William A. Caudill, who operated a sanitarium "specializing in colloidal sulphur baths," out of the 1888 brick residence (converted into the New Graham Springs Hotel); it was still in operation in 1942 (Coleman 1942:25).

A lone grave on the grounds is associated with the hotel era—a young woman died at Graham Springs and was buried under an unmarked stone in the trees near the Saloon Spring, within sight of the New Graham Springs Hotel (Coleman 1942:25-26).

NELSON COUNTY

In Nelson County, Washington Bell's Sulphur Spring was in operation as a resort in 1886, according to geologist Albert C. Peale (1886:110).

NICHOLAS COUNTY

Nicholas County's Blue Licks refer to alkaline saline-sulfur springs in at least three different locations. In the 1770s, there was a Blue Lick Salt Works was located in Robertson County, just north of the Licking River. The spring at the salt works dried up (the date is not mentioned in the literature), but Upper and Lower Blue Lick Springs were well-known to Daniel Boone and other pioneers as a salt lick; a battle with the Native Americans was fought near Lower Blue Lick Spring (Rennick 1984:27-28 Walton 1874:192-193).

In addition to their salt and sulfur content, the springs also contained magnesium, potassium, lime, iron, bromine, and iodine (Moorman 1873:186; Palmer 1909:207). Bromide waters were used to treat epilepsy and ulcers, and iodide waters were known to be effective for a wide variety of diseases [iodine is a disinfectant] (Palmer 1909:203). Both the Upper and Lower Blue Lick waters were laxative, and used to treat "engorgements of the liver and abdominal organs, gall-stones, gastric catarrh [inflammation of the mucous membrane], granular pharyngitis [inflammation of the larynx], and...chronic diseases of the skin," (Walton 1874:191-192).

Figure 12. Springhouse at Lower Blue Licks (Lee 1981).

A prominent health resort developed around the springs: a three-story hotel (670 feet long with 1800 square feet of galleries) with three parlors, was built at Lower Blue Licks in the 1830s. The dining room was 100 by 36 feet, the ballroom 26 by 80 feet (Coleman 1942:15). A six foot diameter hexagonal stone reservoir, five feet deep, marked the location of the main spring, on the banks of the Licking River; more springs lined the opposite bank and the bed of the river (Walton 1874:193). Boarding accommodations (perhaps cabins) were available at the Upper Blue Licks; though the Upper springs were less developed as far as housing and baths were

concerned, it was the Upper Blue Licks waters which were bottled and sold throughout America beginning in the 1830s (Coleman 1942:15; Walton 1874:191-192).

Figure 13. Blue Licks Hotel (Hardy 1895:1393).

The resort was along a major stage route between Maysville and Lexington, and easy to access by steamboat due to its position on the Licking River, near the Ohio; later, the Kentucky Central Railroad stopped nine miles from the resort at Carlisle (Crook 1899:256; Moorman 1873:186; Walton 1874:191). Four to six hundred guests per season registered at the hotel during the 1840s (Coleman 1942:15; Rennick 1984:27-28). Blue Lick Springs competed with Crab Orchard Springs (Lincoln County) for guests and prominence, offering boating, baths, and an Independence Day celebration in 1859 featuring Captain Morgan and his Lexington Rifle Company (after Crab Orchard had successfully hired the same company to perform the year before) (Coleman 1942:20).

Apparently, at the same time, the Western Military Institute had been in operation on the resort grounds; Lewis Collins (1976 [1874]:16-17) reports that the Institute moved from Blue

Lick Springs in January, 1851, to Drennon Springs (Henry County), due to "improper housing conditions." On April 7, 1862, the Blue Lick Springs hotels were destroyed by an arsonist. After the war, Captain D. Turney advertised that Blue Licks was "ready to accommodate 400 guests," and the Blue Lick House was built at the Lower Blue Lick Springs (Collins 1976 [1874]:21-22; Walton 1874:192).

OWEN COUNTY

A resort in Owen County, Beechwood Spring, had its waters analyzed by George Charlton Matson in 1909. Matson states that the spring was "really a shallow well...[containing a] large amount of magnesium, specifically magnesium sulphate," (1909:88).

SCOTT COUNTY

Scott County was home to one of the many White Sulphur Springs (owned by Colonel Richard M. Johnson), near the Frankfort-Georgetown Turnpike. It was "listed among the best-known resorts of the 1830s-1850s," with a two-story frame hotel over 200 feet long, a ballroom 74 by 24 feet, "together with several other buildings and numerous cottages," (Coleman 1942:10, 15).

TRIMBLE COUNTY

Trimble County's Bedford Springs (two alkaline saline-sulfur springs and one Epsom spring) were said to cure stomach, liver, and kidney diseases, as well as gout and rheumatism. In addition to their use at the resort, the waters were sold by the gallon or barrel in Louisville, Kentucky (Peale 1886:108; Walton 1874:199). The resort was located six miles from Sulphur

Station on the Louisville and Cincinnati Short Line Railroad, and included the Bedford Springs Hotel and cottages (Crook 1899:249-250).

WASHINGTON COUNTY

Washington County's Tatham Springs was included in the reconnaissance survey (see Results section).

The Eastern Kentucky Coal Field

BELL COUNTY

Bell County's Clear Creek Springs (also known as Clover Creek) were used to cure sores and ulcers; dyspepsia; diseases of the skin, liver, and kidneys; and "disorders of the female pelvic organs," (Collins 1976 [1874]:412; Crook 1899:252). From Collins' (1976 [1874]:412) description, stating that the water tasted "similar to powder," at least some of the eight mineral springs were probably sulfur-magnesia; James K. Crook (1899:251) also identifies two light alkaline-calcic springs. In the mid-19th century, J. M. C. Davis established a resort at Clear Creek Springs; it is described as a small hotel at 1,300 feet above sea-level, accessible by the Cumberland River and Tennessee and Louisville and Nashville Railroads (Crook 1899:251; Rennick 1984:60).

In 1923, Clear Creek Mountain Springs Corporation purchased the property (the hotel had burned "a few years" before) with plans to establish a Baptist retreat center (*Courier-Journal* 1923). The Baptist encampment and recreation center (accessible by the Louisville and Nashville Railroad) encompassed 450 acres with three artificial lakes with bathing beaches, a hotel, a 2000-seat auditorium, a hotel, dormitories and bungalows, tennis courts, an athletic field, a golf

course, boat houses, pavilions, parks, walking, riding, and driving paths, a preacher's institute, and a large tabernacle (*Courier-Journal* 1923; *ibid.* 1927).

CARTER COUNTY

In Carter County, the Aden Springs resort was built in the 1890s along the Chesapeake and Ohio Railway, and "drew a large patronage from the Bluegrass region of central Kentucky," (Coleman 1942:23).

ESTILL COUNTY

Estill Springs (Estill County), half a mile West of Irvine, was a national tourist destination even before railroad access (Wells and Madigan 1983). Located in the Cumberland Mountains and near the Kentucky River, not only was the scenery an aesthetic attraction, but the elevation was considered "exempt from miasmatic influences," (Wright 1859:61-62). Eight springs were present: a white sulfur spring (which flowed out of a large gum tree) containing iodine and phosphates, two red sulfur springs containing magnesium, a black sulfur spring, a chalybeate spring, an alum-chalybeate spring, a copperas chalybeate spring, and a pure water spring (Collins 1976 [1874]:167; Moorman 1873:187; Wright 1859:60-61).

Estill Springs (originally named Sweet Springs) began as a 15-room hotel with a brick chimney in 1814. Each room had its own fireplace, and could be rented by the week, month, or year (Coleman 1942:7). In 1838, William Chiles opened an 88-room hotel (Estill Springs Hotel) and cottages of six to twelve rooms on the property. The hotel—constructed from lumber cut on the site over a brick foundation (the bricks were also made on site)—included two parlors, at least two dining rooms, servants' quarters, and long porches (*Louisville Times* 1924). A decade

later, a new bathhouse was built, along with a white sulfur "plunging bath," (Coleman 1942:14).

In 1859, proprietor Sidney M. Barnes advertised that an "excellent turnpike road" had been completed connecting Lexington with Estill Springs (Wright 1859:59). The attractions of Estill Springs Hotel, by 1859, included a ballroom, galleries, promenades, drives, boating, and brand-new furniture (*ibid* 1859:59, 62).

Though Estill Springs' prosperity declined during the Civil War, it made a comeback in the 1880s and 1890s under the ownership of J. M. Thomas, who built a 45 by 100 foot ballroom on the 700 acre grounds in 1893. In 1924, the hotel (then owned by Harvey Riddle) caught fire and burned to the ground. The damages were estimated at \$40,000, and there was no insurance. The property was split up and converted to farmland, except for the hotel site itself, which was bought by Mrs. Lenna Wallace as a residential lot (Coleman 1942:21-22; *Louisville Times* 1924).

JOHNSON COUNTY

Johnson County's Oil Springs resort (also known as Medina) on Lulbegrud Creek developed around several natural oil springs, which were "used by Indians and pioneers alike to treat wounds, rheumatism, and other ailments," (Rennick 1984:218).

MORGAN COUNTY

Morgan County's Riffe Springs resort is listed in "Old Kentucky Watering Places," with no further details (Coleman 1942:24).

ROCKCASTLE COUNTY

Rockcastle Springs was a local resort established at 2000 feet above sea-level in the Cumberland Mountains in 1843, based around three saline-chalybeate springs (Crook 1899:258). Coleman (1942:22) states that it "staged a remarkable comeback," after the Civil War and "did a thriving business in the middle [18]80's under management of F J Campbell." At least 150 guests registered in 1888. The resort grounds offered boating, bathing, bowling, fishing, deer-hunting, quoits [a ring toss game], billiards, cards, music, and dancing...a "veritable Eden for children, a sanitarium for the invalid, a paradise for lovers and a haven of rest for the tired," (*ibid.* 1942:22). The Rock Castle Springs Hotel was accessible by both the Louisville and Nashville and the Queen and Crescent Railroad lines via London, Kentucky, where stagecoaches met both the morning and afternoon trains to transport guests to the hotel. In addition to the health benefits of the springs themselves, the elevation and pine forests of the grounds were said to be good for hay fever, asthma, sinus infection, and laryngitis (Crook 1899:258).

WOLFE COUNTY

Wolfe County was home to Torrent Springs, a resort between Natural Bridge and Big Andy Ridge in the western part of the county (Coleman 1942:23; TOPO! 2008).

Swango Springs Spa, also in Wolfe County, was included in the reconnaissance survey (see Results section).

The Mississippi Embayment

GRAVES COUNTY

Only one spring from the Mississippi Embayment region is listed in the literature—the Adelida Springs (Graves County)—in a Kentucky Geological Survey bulletin (Peter 1905:39),

which advises using the chalybeate water "fresh from the springs." There is no mention of a hotel or resort on site.

The Mississippian Plateau

BRECKENRIDGE COUNTY

Breckenridge Tar and Sulphur Springs (Breckenridge County) was a health resort fashionable in the 1840s, with eleven bluff springs (one tar and the rest white sulfur) in a 100-foot cliff (Coleman 1942:23; Collins 1976 [1874]:97; Wells and Madigan 1983). Other sources (Crook 1899:259; Walton 1874:200) state that there were only four springs. The White Sulphur Springs Hotel was four miles from Cloverport, which was accessible by daily Ohio River steamboat routes from Louisville (Walton 1874:200).

CHRISTIAN COUNTY

The 40-room Salubria Springs Hotel operated as a health resort from 1908 until 1933, when it was converted into the Christian County Benevolent Home. The building was destroyed by fire on December 17, 1976; it had been used for storage since the 1960s. The springs were also destroyed, apparently by roadwork on U.S. Highway 41 (Turner and Anderson 2006:101).

Figure 14. Salubria Springs Hotel, Pembroke, Kentucky (Kentucky Historical Society 2015).

CRITTENDEN COUNTY

The Crittenden Springs Hotel was three stories, with a two-story porch and balcony and 125 rooms, built in 1887 by the Crittenden Sulphur Springs Company. Mining operations in the area stopped the flow of the sulfur spring in 1910, and nine years later, the hotel was torn down and the lumber used to build a residence on the site (Turner and Anderson 2006:103). There may also have been a saline spring at Crittenden Springs (Peale 1886:114).

Figure 15. Crittenden Springs Hotel (Crittenden County), with the dance pavilion in the foreground (Kentucky Historical Society 2015).

EDMONSON

Edmonson County was home to a resort called simply "Chalybeate," listed as a late 19th century health resort on Kentucky State Road 101. There were multiple mineral springs; the literature does not say if they were all chalybeate or if additional spring types were present (Rennick 1984:56).

Figure 16. Postcard of Chalybeate Springs, 1914 (Kentucky Historical Society 2015).

HANCOCK COUNTY

Hancock County's Tar Springs are listed as a resort by Coleman (1942:23) with no further details.

HARDIN COUNTY

Hardin Springs (Hardin County) was a resort of the 1890s, based around sulfur springs (number not given) (Coleman 1942:23; Peale 1886:108).

Crook (1899:260) refers to a Howell Mineral Springs in Hardin County, but gives no further details.

Hardin County was also the location of Tioga Springs, investigated by Brockington in 2012 (see Prior Archaeological Research section).

LIVINGSTON COUNTY

Livingston County's Tolley Springs resort is listed by Coleman (1942:24) with no further details.

LOGAN COUNTY

In Logan County, Lewis Collins (1976 [1874]:481) writes, "There are many Mineral Springs...Buena Vista, Cerro Gordo, and Bee Lick, the most prominent; some of these are fashionable resorts in the summer, and their waters have fine medicinal qualities." Which of the latter two are the names of resorts and which are the names of particular hotels attached to resorts is unclear. Crook (1899:260) also refers to a Burgher's Springs in Logan County, but does not give any further details.

Buena Vista Springs was six miles from Russellville, where two branches of the Louisville and Nashville Railroad (the Memphis Branch and the Owensboro Branch) met. A stage from the Buena Vista Springs Hotel met morning trains every day at eight o'clock. The resort had a tennis court, croquet grounds, a billiard table, swings, walks, and a large lawn planted with native trees and ornamental shrubberies, through which Elk Lick Creek and the two sulfur-magnesium springs flowed. The waters were said to be good for liver and skin diseases, malaria, rheumatism, anemia, and general debility (Crook 1899:250-251).

In addition, the Diamond Springs Iron Water Health Resort (opened 1893 by James C. Sneed) was located in Logan County on Rawhide Creek, two miles from the Louisville and Nashville Railroad Baugh's Station. It is described as a "rustic resort" centered around four bluff

chalybeate springs, in an "isolated but picturesque timbered area," and operated until 1963 (Rennick 1984:82; Turner and Anderson 2006:120-121).

METCALFE COUNTY

Metcalf County's Beachville Springs (a salt spring and a sulfur spring) were the site of a local resort (Peale 1886:109).

Sulphur Well, also in Metcalfe County, contained not only sulfur, but also salt, magnesium, and iron; a combination believed to cure indigestion and nervous conditions. A hotel and associated boarding houses were built around the spring in 1854, on the Little Barren River (Coleman 1942:24; Jessie 2014). The Buela Villa Hotel, constructed in 1903 under proprietor Catlett W. Thomson, remained in operation until 1969, though most of its business for the previous "two or three decades" had come from travelers, salesmen, and the hotel restaurant (Jessie 2014; Lee 1981:448). The hotel was a "modern resort hotel with a dance hall, pool room, bowling alley and a garage for the guest's cars," known for its excellent food (Jessie 2014.; Lewis 2010). There were two main hotels (one had trouble with flooding due to its proximity to the river), each with wide verandas, (one porch was 20 by 102 feet and furnished with rocking chairs), and a swinging bridge provided access to the well from the veranda (Lewis 2010). In 1969, owner King C. Crenshaw was forced to close the hotel due to health problems; an arson fire destroyed the building, and since then a community building has been built over the former hotel site (Jessie 2014; Lewis 2010).

Figure 17. Buella Villa Hotel, shortly before an arson fire destroyed it (Jessie 2014).

MONROE COUNTY

Monroe County's Sulphur Lick Springs are listed as a resort by Coleman (1942:24) without any further details.

Red Boiling Springs (Monroe County) is described as a health resort noted for its sulfur water, 18 miles southwest of Tompkinsville (Lee 1981:453).

RUSSELL COUNTY

Russell Springs (Russell County) was also known as Big Boiling Springs, the Nally Spa, or the Chalybeate Springs Resort Hotel. Located four miles south of the junction of Kentucky State Roads 56 and 758 in Union County, the resort was founded by the Sam Patterson family as a row of twelve log cabins (Long Row) to accommodate guests seeking the chalybeate and sulfur

medicinal springs (Wells and Madigan 1983; Rennick 1984:259). By 1850, Long Row had been renamed Big Boiling Springs. Whether it was renamed several times between 1850 and 1890, or whether the names Nally Spa and Chalybeate Springs Resort Hotel refer to specific hotels within the Big Boiling Springs/Russell Springs resort is unclear (Lee 1981:515; Rennick 1984:56).

Lewis Collins (1976 [1874]:192) refers, specifically, to the *spring* as "Russell's Spring" (singular), issuing from "the Cave," so Big Boiling Springs may, in fact, have been the official name of the resort. In 1898, a "large hotel" was built, which burned in 1942 (Lee 1981:515; Rennick 1984:259).

TRIGG COUNTY

Trigg County is the location of Cerulean Springs, included in the reconnaissance sample (see Results section).

Turner and Anderson (2006:123) also mention Pete Light Spring, a restaurant and tourist motel, and Roaring Springs (a cave spring), in Trigg County, but do not mention whether the springs are freshwater or mineral in nature.

UNION COUNTY

Crook (1899:260) refers to a Sulphur Springs in Union County, but gives no further details.

WARREN COUNTY

Archaeological research at Warren County's Massey Springs is in the process of being conducted by Western Kentucky University, under Professor Darlene Applegate (2014 personal

communication). The original three-story, 40-room Massey Springs Hotel (built 1894 by James Melvin Massey) was accessible by Honaker's Ferry on the Green River, and located 14 miles from Bowling Green. The hotel sat on the bluff above a chalybeate spring and an alum spring, but burned down; a second hotel (built 1905 by George F. Cole and J. S. Williams) was torn down in 1942 (Turner and Anderson 124).

Also in Warren county are the sites of Allen Springs (also known as Scottsville Public Spring) and Chameleon Springs. Allen Springs (a sulfur spring) was first developed by James T. Harney, who opened a boarding house in 1837; whether it was Mr. Harney or a later owner who expanded the business into a resort is unclear, but it was described later as a spa which "attracted many visitors in the mid-19th century," (Rennick 1984:4; Collins 1975 [1874]:33). On August 13, 1862, a "skirmish" between Union and Confederate troops broke out on the premises. No resulting damage is described in the literature, nor is any expansion or repair following the Restoration (Rennick 1984:4). From 1974-1979, a renovation of the springhouse and premises was sponsored by local Garden Club (Wells and Madigan 1983).

Chameleon Springs was a Warren County resort built around a sulfur spring owned by Robert Brian (Coleman 1942:8; Peale 1886:114).

The Western Kentucky Coal Field

DAVIESS COUNTY

Crook (1899:260) refers to a Hickman's Springs in Daviess County, but gives no further details.

GRAYSON COUNTY

Crook (1899:260) refers to an Indian Spring in Grayson County, but gives no further details.

Grayson Springs (Grayson County) is included in the reconnaissance sample (see Results section).

HOPKINS COUNTY

Hopkins County was home to several spring resorts, most notably Dawson Springs. The resort was initially called Tradewater Springs, but was renamed in 1898. In 1872, the Illinois Central Railroad built a stop at Tradewater station; in 1881, the first mineral well was found by W. I. Hamby (Lithia saline-chalybeate). As 40 more mineral wells, "each with a different mineral content," were dug, the Illinois Central sold 50,000 tickets to Dawson Springs in a single year in 1898 (Lee 1981:330; Turner and Anderson 2006:104-105). Aside from Hamby's Well, the literature mentions the Richmond Salts Well (later known as Doom's Well) and Chalybeate Spring. The mineral waters were bottled and sold nationwide, and E. A. Stevens' mineral water plant included a box ball [an arcade game] alley for the entertainment of visitors (Lee 1981:330; Turner and Anderson 2006:110, 113; Wells and Madigan 1983).

Figure 19. A Dawson Springs water jug (Philip DiBlasi 2013).

The resort consisted of multiple, separately owned and operated, hotels, of which the Hotel Arcadia (1882-1923) was the first. The Arcadia was owned and operated by J. W. Pritchett, N. M. Holeman, and Lee O. Dixon. "Entertainment included a ballroom with an orchestra and four small parks, each with a mineral well," (Turner and Anderson 2006:112).

Figure 20. Postcard from Arcadia Hotel, 1924 (Kentucky Historical Society 2015).

The Hotel Hamby (30 rooms, later enlarged to 50) was built in 1893, with a jewelry and souvenir shop, a soda fountain, and a dance floor. Later, the Hamby was converted into a nursing home; it was torn down in 1964 (*ibid.* 2006:106-107).

Figure 21. Hotel Hamby at Dawson Springs (Kentucky Historical Society 2015).

The Summit House (1892 until after the turn of the century) was built by H. H. Ramsey. The New Century Hotel, with 150 rooms and 75 bathrooms, was built in 1902 by Forbes and Brothers; in 1935, it was owned by John W. Welch. It operated year-round, advertising steam heat and electric lights, and contained a 47 by 60 foot ballroom. It burned due to faulty electrical wiring on March 6, 1960 (*ibid.* 2006:108-109, 111).

Figure 22. Advertisement for the New Century Hotel (Turner and Anderson 2006:108).

Figure 23. Postcard of the New Century Hotel, 1924 (Kentucky Historical Society 2015).

The 40-room Phillips Hotel and Bath House (July 15, 1910-July 25, 1932) advertised seven wells, baths, and cool rooms and a shady lawn; it was destroyed by fire (*ibid.* 2006:111). These and other (unnamed in the literature) hotels and boarding houses accommodated thousands of guests until the popularity declined in the early 1920s (Lee 1981:330). Aside from the amenities of the hotels, the area's outdoor attractions included hiking the bluffs; fishing, canoeing, and steam paddleboat rides in the Tradewater River (Turner and Anderson 2006:114-119).

On February 22, 1922, an extensive veteran hospital was opened in the Dawson Springs community; the site was chosen for the healthy qualities of the water and climate established by the resort's popularity. Whether the new hospital grounds included (or replaced) the former resort or not is unclear in the newspaper articles announcing its opening (*Louisville Post* 1919; *ibid.* 1922).

Kirkwood Springs, also in Hopkins County, was located thirteen miles from Madisonville, one mile East of the Tradewater River. According to Robert M. Rennick (1984:161) "virtually nothing remains of this...late 19th century health resort."

Hopkins County was also the site of Manitou (also known as Steubens Lick or Tywhopity), a 19th century health resort with multiple springs (sulfur and salt, number not given in the literature) (Rennick 1984:187).

A fourth Hopkins County resort is listed as Davis Spring (or Davis Well), its waters saline-chalybeate (Peale 1886:114).

LYON COUNTY

Lyon County's Kuttawa Mineral Springs Resort was founded in 1866, just after the end of the Civil War, by Charles Anderson (Coleman 1942:23; Lee 1981:401; Turner and Anderson 2006:121). "Using the land slope, he created a large swimming hole with continually changing water," (Turner and Anderson 2006:121). A popular resort by the 1880s, tennis courts, croquet courts, a barbecue pit and dining hall, a pavilion, a restaurant, and concession booths were added by 1920 (under the newly-formed Kuttawa Springs Company), along with enough cabins to house 200 guests.

Figure 24. Spring at Kuttawa (Kentucky Historical Society 2015).

Its carbonated alkaline springs included the Mint (used for refrigeration), Kuttawa (the largest of the springs), Wild Rose, Diamond, and Rock Bowl Springs (Bayview Properties 2015; Peale 1886:108; Turner and Anderson 2006:121). In addition to its use as a resort, outdoor events, political rallies, reunions, and swimming parties were traditionally held at the springs. The August Camp Meeting, "a two-week-long event filled with evangelistic preaching and good country cooking," was held at Kuttawa Springs annually from the 1880s until the 1930s, as well

as the annual picnic and dance of the Illinois Central Railroad, during which a "special train brought the employees and their families from Paducah along with a band and platform for a dance floor. The barbecue, picnic and dancing went on all afternoon, and at dusk, the train took the merrymakers home," (Bayview Properties 2015). An Olympic-sized swimming pool built by the Kuttawa Springs Company was still used by locals and summer band camps in 1948 (*ibid.* 2015; Turner and Anderson 2006:121-122).

Figure 25. Spring-fed fountains at Kuttawa, circa 1950 (Kentucky Historical Society 2015).

In the 1960s, 83 acres of the resort grounds were purchased by the United States Army Corps of Engineers and subsequently submerged by Lake Barkley. The rest of the grounds, where initial-carved trees from the resort era still stand, are now home to The Springs Subdivision owned by Bayview Properties (2015).

OHIO COUNTY

Crook (1899:260) refers to a Chalybeate and Saline Springs in Ohio County, but gives no further details.

WEBSTER COUNTY

The Henderson and Nashville Railroad was completed in the late 1860s, when mineral springs were discovered at Sebree. By 1884, the Sebree Springs Hotel had been built and sold to William G. Rork (Turner and Anderson 2006:125). The hotel (just south of the town of Sebree) became a popular resort in the 1890s, with multiple spring types (salt, sulfur, and chalybeate); the Sebree Springs Hotel was purchased by George L. Dial, who renamed it the Chalybeate Springs Hotel in 1896 (Coleman 1942:23; Peale 1886:109; Turner and Anderson 2006:125). The chalybeate waters came from a seven-foot-deep pit, and were bottled and shipped via railroad. In 1907, John B. Ramsey purchased Chalybeate Springs and reverted to the name Sebree Springs. He added a two-story pavilion which housed a dance floor, vendors, and games, including a bowling alley. The hotel burned down in 1911, and the grounds were converted to Sebree Springs Park (10 cents admission) by a fraternal order the following year (Turner and Anderson 2006:125-127).

Nearby Springdale, also in Webster County, is described as "several springs in a cluster, of sulfur and chalybeate water, at Sebree City," but appears to have been a separate resort, since both places are shown individually on topographic maps: Sebree Springs Park to the southwest of Sebree and Springdale to the southeast of the town (Collins 1976 [1874]:757; TOPO! 2008). Collins (1976 [1874]:757) states that Springdale's waters are well-reputed for their curative properties, and that, "The hotel accommodations are excellent."

Prior Archaeological Research

Most archaeological work done at springs sites has focused on their prehistoric occupations, as in the case of Big Bone Lick (Boone County) and Drennon Springs (Henry County, see Results section) (Funkhouser and Webb 1932:183-184). However, surveys have been conducted at three sites which focus on hotel era occupations at the springs: Crab Orchard Springs (Lincoln County), Tioga Springs (at Fort Knox in Hardin County), and Massey Springs (Warren County).

In 2003, the Kentucky Archaeological Survey, Kentucky Heritage Council, and the University of Kentucky Department of Anthropology conducted an initial investigation of Crab Orchard Springs Hotel (Lincoln County), now the site of Crab Orchard Elementary School. The goals of the project were to learn more about the history of the hotel era at Crab Orchard and to provide a hands-on archaeological/historical experience in which the students could participate (Miller 2003:2). They chose three areas for investigation based upon their initial survey. In the first two areas, nothing conclusive could be determined archaeologically due to intense construction disturbance of the stratigraphy (Miller 2003:8-14). The third area revealed the remnants of a structural foundation; associated artifacts including medicine bottles, glass, and gas pipe fragments suggest that this building dates to the hotel era, and may be the foundation of the hotel itself. The report recommends excavation below the topsoil for further study (Miller 2003:17-18). According to historic literature, the two Crab Orchard Springs, Foley's Spring and Sowder's Spring, were both sulfur-saline, used to manufacture Crab Orchard Salts, which were sold regionally as a laxative (Crook 1899:252; Walton 1874:263).

A Phase II investigation of the Tioga Springs site (Hardin County) was conducted by Brockington in 2012 in order to assess whether the site met the criteria for inclusion in the

National Register of Historic Places (NRHP). The artifact assemblage recovered suggests occupation from at least 1830 (possibly earlier) to 1918, when the property was acquired by the military for Fort Knox (Mills 2012:68). During Phase I surveys, several features were identified, including two springhouses, a brick rubble concentration, a limestone retaining wall, three historic roadbeds, and three depressions (Mills 2012:69). Seven test units were excavated during Phase II, revealing three distinct activity areas within the site—a private residence likely occupied by the operators of the hotel, the hotel and associated service buildings, and the springhouse area (which was not investigated beyond the initial survey) (Mills 2012:123-124). Although the report recommends significant additional research, both archival and excavative, the project achieved its goal in establishing that the site met the minimum criteria for the NRHP due to its relevance to trends in local and regional history and because it has yielded (and is likely to yield more) archaeological data relevant to local history (Mills 2012:129).

Ongoing research at Massey Springs (Warren County) is being conducted by Professor Darlene Applegate of Western Kentucky University.

Unknown Region and County

Two unlocated resorts referred to in the historic literature are Sulphur Springs and White Sulphur. Since both were extremely common place names in Kentucky, Virginia, and West Virginia, it is unclear which of several locations the literature refers to. According to *Kentucky Place Names* (Rennick 1984:287, 317), Sulphur Springs (white sulfur waters) operated as a resort around the turn of the 20th century, and White Sulphur Springs ("several" white sulfur springs) opened as a "famed antebellum health resort" in the 1830s under a proprietor named Johnson.

owners, were contacted for the locations of the Keene Springs Hotel in Jessamine County and the Rochester, Alum, Mitchell's, and Linnietta Springs Hotels in Boyle County.

During reconnaissance, any features or artifacts visible on the surface of the landscape were photographed and documented in field notes. Maps printed from TOPO! were used to mark the approximate locations and spatial relationships of features, and UTM Essentials, a GPS (Global Positioning System) Android phone application, was used to record the coordinates of springs and associated features in the field. Where loss of cellular phone signal prevented the recording of UTM coordinates, Google Earth was later used to locate and record the coordinates of specific landmarks noted during reconnaissance. Information from local informants was also recorded in the field notes.

Features relating to the hotel era were noted, as well as modern features which may be superimposed over hotel era features. Features associated with the hotel era include the springs themselves (with or without improvements and springhouses), the hotel foundations, and the foundations or footprints of outbuildings such as servants' quarters, band stands, cabins, carriage houses and stables, garden walls and landscaping, and boat houses. In addition, there are graves related to at least three sites in the literature—Paroquet (Bullitt County) and Graham Springs (Mercer County) each have a "lone grave" associated with the grounds (Coleman 1942:25-26), and Esculapia Springs (Lewis County) was situated "across the street from the old Jones graveyard," possibly the family graveyard of William F. Jones, who purchased the hotel in 1867 (Talley 2002). There may be graves associated with other sites, as well. Hotel owners and their families, slaves and servants, and guests who died at the resorts, especially the victims of infectious diseases, may have been buried on the grounds.

Results

Grayson County: Grayson Springs

According to the literature, Grayson Springs was originally known as Sulphur Springs, established in 1825 by James Fielding Clarkson as a set of log cabins in the virgin forest near roughly 100 white sulfur springs (Nevils 1976:2). Lewis Collins (1976 [1874]:293) describes the springs as located "on a single quarter-acre of land—said to be more strongly impregnated with sulfur than any in the United States; they vary in temperature, some very cold and others very warm." In 1836, Clarkson built a two-story log hotel at the springs (accessible by stagecoach) and hired Dr. William Barrett as "hydropathic physician" for the resort. Grayson Springs' attractions prior to 1860 included its bar, gardens, park, wooded walks and riding trails, gambling and group sing-alongs, hunting and fishing, and a longer watering season than most health spas—from May 1 to October 1. In 1860, Grayson Springs was incorporated, and began construction of additional hotels, a bowling alley, a shooting gallery, and a water curling facility (Nevils 1976:2-3).

Figure 27. Photograph made from a lithograph of Grayson Springs (GCHS n.d.).

The resort also hired more physicians, and continued operation through the Civil War, though it was briefly occupied by the Confederate Army, who built a fortification overlooking the springs (on what was later called "Confederate Hill"). Apparently, the Clarksons did not support the Confederacy—at least, not after the occupation—because afterward the resort took in wounded and ill Union Soldiers, who were housed and treated in the bowling alley. After the war, Grayson Springs regained its former popularity and was sold out of the Clarkson family. In 1868, it was purchased by the Vanmeter Brothers, Captains William S. and Charles J., who were in-laws of the Clarksons (Grayson County Historical Society n.d.; Nevils 1976:3).

Grayson Spring Depot, where passengers got off the "fast train" en route to famous Grayson Springs. This was a very busy station about the turn of the century. In the left of the picture, the white post sticking up beside the tracks was for the Postal Service. The stationmaster would hang bags of mail on the wooden pegs — then when the fast train went by — a mechanical arm would extend and snatch the bags from the pegs. *This was later the Clarkson Depot*

Figure 28. Grayson Spring Depot, later the Clarkson Depot (GCHS n.d.)

In September of 1872, the Elizabethtown and Paducah Railroad (later bought by the Illinois Central Railway) was completed, with a Grayson Springs Station two and a half miles from the springs. Guests were met by the resort's horse-drawn hack (until a Model T Ford replaced it in the early years of the 20th century). In spite of the 1873 financial panic, business increased at the resort, which, by 1890, had expanded its dining rooms; added a mineral water swimming pool, a golf course, tennis courts, and a croquet field to its grounds; and installed electric lights, a telegram service, and long distance telephones (GCHS n.d.; Nevils 1976:3-4; Walton 1874:195). "Service was provided largely by black employees who lived in nearby cabins or houses and were summoned to the hotels by individual bell signals," (Nevils 1976:4).

Figure 29. "Cabin of Servants" (GCHS n.d.)

In 1900, the 1,000-acre resort was sold to Clarence C. and Robert L. Mercke, who advertised four large, steam-heated hotel buildings with more than 28,000 square feet of balconies and capacity for 600 to 1,000 guests: the 301-room, three-story New Orleans Block was usually reserved for Southern tourists (the staff spoke both French and English); the three-story Louisville Block housed Kentucky guests; the Main Hotel, where the ballroom, dining room, and kitchen were located; and Morality Hall, where the pool and billiard tables and private gambling rooms were housed.

Figure 30. The New Orleans Block (GCHS n.d.)

Figure 31. The Louisville Block (GCHS n.d.)

Figure 32. One of the Grayson Springs Hotels viewed from the walking paths in the hills (GCHS n.d.)

Figure 33. One of the Grayson Springs Hotels, possibly during a construction phase (GCHS n.d.)

The hotel buildings were constructed close together in a row, with "galleries on each side, with one side fronting the wells and paths, and the other overlooking garden plots and hills beyond," (GCHS n.d.; Nevils 1976:1).

Figure 34. Drawing of Grayson Springs Resort at the turn of the century (GCHS n.d.).

According to the advertisements of 1900, Grayson Springs offered nightly entertainment including lectures, concerts, theatrical performances, and dance music in the 40 by 100 foot ballroom, and weekly Germans, euchres, and fancy dress balls. On Sundays, the ballroom was used for Sunday school and church services. An orchestra played in the park and the dining hall daily. Every Saturday night, there were minstrel shows and cake walks, and the resort was also the location of Grayson County's first fireworks show (Coleman 1942:24; GCHS n.d.; Nevils 1976:4).

Figure 35. Grayson Springs Resort at the turn of the century, from the top of "Confederate Hill" (GCHS n.d.).

Figure 36. Bathhouse at Grayson Springs (GCHS n.d.).

Figure 37. Photograph of guests at the hotel at the turn of the 20th century (GCHS n.d.).

In addition, the resort claimed "twenty distinct springs," in the immediate vicinity of the hotels—some improved with hollowed limestone basins in 1903—including "sulphur, chalybeate, Lithia, limestone, and freestone," (GCHS n.d.). According to the advertisements, the waters kept the area completely free of mosquitos. Treatments included lava-mud, sulfur, and Turkish baths, as well as showers, steam rooms, and massage. The springs were said to be good for heart conditions, stomach ulcers, the kidneys and liver, rheumatism, and nervous breakdowns. Specifically, McAtee Spring (particularly good for liver complaints, dyspepsia, and rheumatic fever), Moorman Spring, and Center Spring (particularly good for the kidneys and stomach) were said to cure indigestion, constipation, and all other ailments of the stomach, bowels, and urinary tract; the Norman Spring was used to treat skin diseases; Stump Spring was

supposed to be good for the nerves; and, in combination with the other waters, the Iron Well Spring was said to cure anemia and other blood diseases. The white sulfur waters were good for indigestion, constipation, and stomach, kidney, and bladder conditions, and were bottled and sold beginning in 1888. The names of some of the other popular springs at the resort are the Jar, Eye, Humenal, and Rock Springs; many of the springs later dried up, including Beauty Spring, Health Spring, and Iron Well Spring (*ibid.* n.d.).

Figures 38 and 39. Beauty and Stump Springs (GCHS n.d.; Wilson 1976).

Figure 40. "Bottling Plant" (GCHS n.d.).

In 1909, all four of the main buildings burned, and the resort was sold to R. J. Bassett, who divided the acreage up and sold nine of the ten tracts for timber. The tenth, including the springs and golf course, was sold to Albert A. Plock, who built and operated the two-story Grayson Springs Hotel for two years, after which Grayson Springs changed owners several times until the new hotel burned on June 7, 1930.

Figure 41. Grayson Springs Hotel, 1912-1930 (GCHS n.d.).

A Rustic Bridge Hotel is pictured at Grayson Springs in 1918 (see Figure 42), but the literature is unclear as to when and where it was built, or what happened to it (GCHS n.d.; Nevils 1976:4-5).

Figure 42. "Rustic Bridge Hotel in Background", 1918 (GCHS n.d.).

In 1935, the 100 acre springs tract was purchased by Mark E. Nevils, who then purchased the pre-Civil War bowling alley in 1947. The building (clapboard over an original log structure) had been used as a post office, general store, and residence after the resort ceased operation, and was altered substantially in 1940 "when the owner dismantled approximately one-half the structure and rented the remaining half as a residence," (Nevils 1976:1, 5-6). Nevils remodeled the building and added a columned 71 foot long portico and a brick chimney on the northeast side, and after Kentucky 1214 replaced the old Grayson Springs-Leitchfield Road in 1951, the building was re-opened as the Grayson Springs Inn (a restaurant and boarding house) in 1955. It operated on and off through the end of the 1970s (GCHS n.d.; Nevils 1976:5-6).

Figure 43. The bowling alley, built prior to the American Civil War (GCHS n.d.).

Figure 44. The same structure, 1976, as Grayson Springs Inn (Wilson 1976).

According to the National Register of Historic Places report:

Within the confines of the Grayson Springs complex is to be found a very interesting historical archaeological resource. Most unusual is the fact that these below-ground remains have been virtually undisturbed. For the most part, the resource mentioned above consists of the fire destruction debris deposits which were created when the row of large hotels burned in September of 1909...These archaeological remains are currently covered, and actually protected by a thin spread of gravel which has been used to improve the existing driveway entrance...A general surface examination of this area resulted in the observation of numerous artifacts which were imbedded in the drive, yet partially exposed. These included a variety of types which predominantly dated from the fourth quarter of the nineteenth century. A few of the more interesting artifacts included an exterior-mount case lock common in the latter part of the century, sherds of ironstone china with various decorations, blue-on-white heavy stoneware, fragments of jar and bottle glass, and various ferrous pieces including the anticipated machine-cut square nails. Approximately one half of the artifacts seen had been subjected to intense heat, thus precluding for the most part the possibility that they may have been deposited later (Nevils 1976:5).

The report also notes the presence of "scattered limestone foundation blocks of the burned structures," which had been struck and removed during groundskeeping, and states that the rest of the foundation is still "in situ," concluding that, "As the hotels burned with all contents, and the site has not been altered to great extent, it is felt that the site which contains these historical and archaeological resources should be protected and preserved," (*ibid.* 1976:5-6).

Figure 45. Sketch of Grayson Springs Resort (Nevils 1976).

Report: Grayson Springs, Grayson County

Sara Deurell and Charles Allen visited 10/24/14, late morning, Sara Deurell and Zakary Kendall

visited 01/25/15, early afternoon

Investigation Type: Reconnaissance

Physiographic Division: Western Coal Field

Current Owner:

Ms. Kathleen Bunnell
P.O. Box 418
Orleans, MD 02653

Locations:

Entrance: N37 27'37.30" W86 13'29.06", Z16 E568558.00 N4146222.18
 Grayson Springs Inn: N37 27'32.32" W86 13'28.41", Z16 E568577.37 N4146073.14
 Springhouse 1: N37 27'35.14" W86 13'28.63", Z16 E568573.83 N4146159.68
 Springhouse 2: N37 27'31.43" W86 13'28.41", Z16 E568580.47 N4146044.77
 Springhouse 3: N37 27'30.79" W86 13'31.36", Z16 E568507.28 N4146023.86
 Improved springs 1 and 2: N37 27'34.82" W86 13'30.56", Z16 E568515.77 N4146155.39
 Improved spring 3: N37 27'30.65" W86 13'31.68", Z16 E568500.60 N4146017.00
 Collapsed platform: N37 27'36.79" W86 13'31.16", Z16 E568518.61 N4146190.49

Figure 46. Overview of the Grayson Springs Site (Google Earth 2015).

Quadrangle: Clarkson, KY 1979 20ft

Site Type: Resort Hotel and Spa

Resort Owners: Hines, Clarkson, Mercke Brothers

Transportation Access: Illinois Central Railroad

Closest Water Sources: Bear Creek, Lizard Branch

Historic Site Date Range: 1820s-1930

Features Observed at Springs:

- Remnants of two gate posts (concrete and stone)

Figure 47. Gate post to west of entrance, 10/24/14.

- Remnants of gravel walk between gate posts and the Grayson Springs Inn, under which are the remains of the four large hotels, according to the National Register of Historic Places report (1976)

Figure 48. Gravel walk, 10/24/14.

- Wooden platform (collapsed) on hillside to the west of the entrance

Figure 47. Collapsed wooden platform, 10/24/14

Figure 48. Hand-headed machinecut nail (pre-1880).

- Two rows of evenly-spaced cedars: one between the inn and Lizard Branch of Bear Creek;
the second diagonally between the lawn and the sulfur stream

Figure 49. Cedar row looking toward the inn from the sulfur springs on the northern part of the site, 10/24/14

Figure 50. A hotel era postcard depicting the cedars (GCHS n.d.).

- The Grayson Springs Inn, formerly the bowling alley, now empty. Standing external chimney and white fencing from 1950s remodel on the northwest side.

Figure 51. Grayson Springs Inn, which may be the remaining half of the original pre-Civil War bowling alley.

Figure 52. Grayson Springs Inn, 10/24/14.

Figure 53. Remnants of the 1950s portico, which may have been built on top of the old foundation of the destroyed half of the building.

- Curved stone wall opposite the inn on the other side of the sulfur stream, recognizable from photographs as being directly below a hilltop structure. The structure is no longer visible.

Figure 54. Postcard of Rock Spring wall below an unidentified structure (GCHS n.d.).

Figure 55. Rock Spring wall, 10/24/14.

- Three square outbuildings (possibly springhouses) of similar dimensions and style: one along the gravel walk approaching the inn, the second on the far side of the inn and to the back of the building, and the third at an improved spring with a set of steps and railing leading down to the sulfur creek, southwest of the inn

Figures 56-59. Springhouses 1-3, and improved spring 3, near springhouse 3 (south end of site).

Figure 60. White sulfur pool near springhouse 3.

Figure 61. Spring-fed white sulfur stream along base of Confederate Hill, between Rock Spring wall and the inn.

- Improved spring to the southwest of the entrance: a circle of wooden planks still holds a pool of sulfur water which constantly fills up and flows over the outside of the structure

Figure 62. Improved spring .1, 10/24/14

Figure 63. Improved spring 1, 10/24/14.

- A stone/concrete platform with a shell-shaped bowl in the center and a sluice for water to flow through, near the improved spring. No water flowing through it.

Figure 64.Improved spring 2, 10/24/14.

- Walking path from entrance circles up along the hillside to the west of the inn, comes back down near the set of steps and railing.

Figures 65 and 66. Beginning of path 1, near entrance, 10/24/14 and 01/25/15.

Figure 67. View from path 1, 01/25/15, looking northeast.

- A second path goes further up the slope to the hilltop. Most of the area is thick with brambles, with a few large trees and patchy open areas full of young saplings.
- A stone wall, overgrown with moss and ferns, to the left of the highest part of path 1.

Figure 68. Stone wall near where paths 1 and 2 meet.

- A ring of cut stone surrounding a two-foot tree stump with substantial roots (stones between). Partially buried beneath layers of soil, leaves, moss, and saplings.

Figure 69. Stone piles and an overgrown ring of stone surrounding tree stump, 01/25/15.

- Several areas that could be more pathways, but are too full of brambles to explore thoroughly.

Extent of Site: At least 250,000 square feet of landscaped area, buildings, and partially overgrown features.

Disturbances: Possible disturbance from road improvements, since the site sits directly at an intersection of Kentucky State Highways 1214 and 88; there is also a row of houses across Lizard Branch of Bear Creek, which may sit on top of additional former hotel grounds.

Henry County: Drennon Springs

The literature states that the Drennon Springs site represents "a prehistoric site of considerable size and importance," based on the presence of burial mounds and artifacts (including flint tools) recovered from the area (Funkhouser and Webb 1932:183-184). As of 1932, there were 20 mounds present (up to eight feet high) which had not been destroyed by agriculture and looting of remains and artifacts (*ibid.* 1932:183-184).

The seven springs were found by Jacob Drennon and Matthew Bracken in July of 1773; Drennon had learned of the springs from a Delaware Indian at Big Bone Lick (Boone County) and initially used the waters for salt production (Collins 1976 [1874]:339; Lee 1981:325; Wells and Madigan 1983). A spa had developed around Drennon Springs by the 1830s, managed by Dr. Robert Hunter. The accommodations originally consisted only of cabins until A. O. Smith purchased the property in 1846 and built a large hotel (as well as additional cabins). The resort reached its peak season of 1,000 guests in the year 1849 (Coleman 1942:16; Rennick 1984:84). In 1851, the Western Military Academy (300 students) was relocated from Blue Lick Springs (Nicholas County) to Drennon Springs, where \$80,000 of new buildings had been constructed for the Academy (Coleman 1942:16-17). Several resort hotels in Kentucky (including Crab Orchard in Lincoln County and Glen Springs in Lewis County) operated as schools in the "off" season, since the students would be out of classes in time for the summer tourist season to begin. On March 23, 1865, an fire destroyed the main hotel and several other buildings on the grounds; according to some sources, the fire was apparently set deliberately, "to stop the outbreak of a cholera epidemic in the area," (Collins 1976 [1874]:157; Lee 1981:325). Other sources state that the fire occurred the following year, while the hotel was abandoned (Crook 1899:253; Walton 1874:199). Winston J. Coleman, Jr. (1942:17) states that the resort reopened in the 1880s, but

does not give details, and in 1899 James K. Crook (253) writes that the resort "has been allowed to languish."

The springs included a salt spring, a blue sulfur-saline spring, and a black sulfur spring (Jillson 1967). According to Lewis Collins (1976 [1874]:339), the springs also contained soda, magnesia, and lime, "acting not only on the skin but as a mild aperient [laxative], diuretic [promoting urination] and diaphoretic [promoting sweat]."

Report: Drennon Springs, Henry County

Philip DiBlasi and Sara Deurell visited 01/16/15, late morning (approximately 10:00 - 11:00)

Investigation Type: Reconnaissance

Physiographic Division: Bluegrass

Current Owner (of hotel site):

Jeff Brierly
5973 Franklinton Rd.
Pleasureville, KY 40057
- Tenant: Linda Roberts (2013)

Locations:

Cupola: N38 30'29.98" W85 03'04.78", Z16 E669907.64 N4264017.64
Store: N38 30'31.47" W85 03'01.92", Z16 E669978.46 N4264065.44
Old bridge abutment: N38 30'46.91" W85 02'52.09", Z16 E670200.08 N4264537.49
Hotel site: N38 30'18.58" W85 03'33.51", Z16 E669219.21 N4263655.70
Kentucky River landing: N38 30'25.48", W85 01'47.44", Z16 E671776.68 N4263982.95
Drennon Springs Church: N38 30'56.46" W85 02'43.46", Z16 E670409.11 N4264845.59
Prehistoric burial mounds: N38 30'58.10" W85 02'41.94", Z16 E670450.28 N4264893.42

Figure 70. Overview of Drennon Springs site (Google Earth 2015).

Quadrangle: Worthville, KY 1990 10ft

Site Type: salt production, medicinal spa, hotel, military academy

Transportation Access: Steam packets at the Kentucky River landing 1 mile from hotel site at
Kentucky 202 (Drennon Rd) and Kentucky 389

Closest Water Sources: Drennon Creek, Kentucky River

Historic Site Date Range: 1773-1880s

Features Observed at Springs:

- Cupola/Gazebo at main sulfur spring (blue sulfur saline, according to Willard Rouse Jillson's 1967 map), near base of slope - approximately 3,000 feet south of Kentucky 202 (Drennon Rd) & State Road 1360. Spring runs to Drennon Creek through an agricultural field.

Figure 71. Cupola at blue sulfur spring, 01/16/15.

- Store front approximately 500 feet from cupola, possibly a souvenir shop during the hotel era. Occupied residence on property (owner not present at time of visit).

Figure 72. Store front near cupola.

- Terraced plateau with walking path leading toward the main spring. At least 4 levels of terracing visible. Plateau now occupied by barn and trailer (owned by Jeff Brierly, tenant Linda Roberts as of 2013). Assuming the hotel was situated for the best view from the high terracing, the barn (a modified residential structure) now sits where the hotel foundations would have been. The area behind the barn, where the hotel privies are most likely to be located, appears unmodified.

Figure 73. Hotel site on a plateau at the top of a terraced slope (Google Earth 2015).

Figure 74. Hotel site with terraced slope in front (Google Earth 2015).

Figure 75. Hotel era postcard of Drennon Springs, showing the hotel on a terraced slope (Kentucky Historical Society 2015).

- No evidence of stone wall ruins of the first Drennon Springs Hotel or stone wall boundary referenced in Jillson's 1967 map. Agricultural activity may have obliterated some of the smaller nearby springs referenced in the historic literature and maps.

Figure 76. Map of Drennon Springs (Jillson 1967).

- Bridge abutment from State Road 1360 (altered sometime after 1967)
- Salt seep in agricultural field on west side of 1360
- Drennon Church, est. 1862, in direct line of sight with hotel plateau, overlooking valley between

Figures 77 and 78. Drennon Springs Church (est. 1862) and historical marker for Drennon Springs.

Figure 79. View of hotel plateau from Drennon Springs Church parking lot.

- Prehistoric occupation evidenced by multiple mounds in the graveyard behind Drennon Church. Cedars growing on top of mounds 75-100 years old.

Figure 80. A prehistoric burial mound in Drennon Springs Church Graveyard.

Figure 81. Prehistoric burial mounds in Drennon Springs Church Graveyard.

Extent of Site: At least 1 mile east-west (from the landing to the hotel plateau) and 3000 feet north-south (from mounds in woods and churchyard behind Drennon Church to the storefront near the gazebo)

Disturbances: Agricultural activity in the area along the south side of Drennon Creek, alteration of the road and bridge of State Highway 1360, residential structures and associated outbuildings near the storefront and on the hotel plateau.

Owen County: Gratz

Willard Rouse Jillson (1929:309) mentions Gratz as a "district exhibit[ing] a number of springs, some of shallow and others of deeper origin containing minerals of recognized value." While visiting Drennon Springs, a local informant at a diner in Gratz (across the Kentucky River

from Drennon Springs) mentioned that there was a spring just north of town. He stated that there had been a hotel (the O'Banion Hotel) and at least one boarding house along Main Street in Gratz. There is an additional spring to the east of the town, which is chalybeate (KGS 2015). Lloyd's 1863 Map of Kentucky also shows a "Rock Spring" to the south of Gratz:

Figure 82. Gratz, Rock Spring, and Drennon Springs (on the left) (Lloyd 1863).

Report: Gratz, Owen County

Philip DiBlasi and Sara Deurell visited 01/16/15, late morning (approximately 11:30 - 12:00)

Investigation Type: Reconnaissance

Physiographic Division: Bluegrass

Current Owner: unknown

Locations:

Stone walls: N38 28'30.29" W84 57'11.51", Z16 678551.80 N4260507.10

Improved Spring: N38 23'36.28" W84 57'14.30", Z16 E678481.84 N4260815.43
(approximate)

Figure 83. Overview of Gratz and the improved spring north of town (Google Earth 2015).

Quadrangle: Gratz, KY 1987 20ft

Site Type: Hotel and boarding houses (possible resort)

Resort Owners: unknown

Transportation Access: Kentucky River steamboat

Closest Water Sources: Kentucky River

Historic Site Date Range:

Features Observed at Springs:

- Kentucky River landing at the end of Main Street
- Dry-laid stone walls, possibly associated with terraced garden of hotel

Figure 84. Stone walls in Gratz (Google Earth 2015).

- Improved spring: concrete structure with metal supports for a superstructure (no longer present) below a bluff spring (intermittent, seasonal, or now dry)

Figure 85. Satellite view showing the stone walls and the spring in relation to each other (Google Earth 2015).

Figure 85. Improved spring north of Gratz, below bluff.

Extent of Site: 500 feet (from the spring to Main Street) by 700 feet (from stone walls to Kentucky River landing)

Disturbances: Modern residences in vicinity of dry-laid stone walls.

Jessamine County: Keene Springs Hotel

According to the literature, Keene Springs Hotel and its adjoining tavern (owned by Mason Singleton) opened in 1848, after medicinal springs were discovered nearby. Mr. J. Robert Wilson, the current owner of the Keene Springs Hotel, states that there was a mineral water well in the lot to the east of the building. The waters are referred to in some sources as white sulfur (Brackney 2013), but according to the analysis printed in an 1849 news article (*Lexington*

Observer and Reporter), the spring contained 16% solid saline matter, as well as magnesium, lime, and sulfur, stating that the Keene Springs water would cure indigestion, liver complaint, dropsy, scrofula, skin conditions, mercury poisoning, nervous diseases, and "nearly all diseases that are usually denominated *chronic*." Though the spring was not located during reconnaissance, the Kentucky Geological Survey (2015) shows a saline-magnesia spring roughly 600 feet from the hotel.

Figure 86. Keene Springs Hotel, circa 1867 (photograph owned by Mr. Wilson).

Two additional inns or hotels were located within about 300 feet of the Keene Springs Hotel, further west along Kentucky 1267 (Keene Troy Pike), according to Mr. Wilson. Keene became instantly popular as a resort destination, particularly when the the Lexington cholera epidemic of 1849 broke out (Brackney 2013; Wells and Madigan 1983). By 1857, the business

had declined, and it was sold to Alfred McTyre, who operated the Keene Springs Hotel until 1868 (eventually as a boarding house rather than a resort, according to Mr. Wilson). In 1868, it was sold to Fielding S. Wilson, J. Robert Wilson's grandfather (Brackney 2013). The hotel lobby was converted into a general store, and a doctor's office was located in what had possibly been the tavern/bar. The eastern portion of the hotel was used as a residence by the Wilson family; since 2001, a catering business and warm-weather restaurant has operated in that section of the building, which is closed off to the rest of the structure.

Figure 87. Hotel lobby converted into a general store (photograph owned by Mr. Wilson, whose father is the central figure).

Report: Keene Springs, Jessamine County

Sara Deurell visited 01/23/15, 12:30-1:30 pm

Investigation Type: Reconnaissance

Physiographic Division: Bluegrass

Current Owner:

J. Robert Wilson
 Pleasant Grove Farm
 P.O. Box 157
 Keene, KY 40339
 859-223-2776
 jrwilsonjur@twc.com
 - Tenant: Debbie Wheeler

Locations:

Keene Springs Hotel: N37 56'37.96" W84 38'18.41", Z16 E707515.38 N4202222.05
 Possible 2nd Hotel Site: N37 56'36.42" W84 38'24.96", Z16 E707351.99 N4202166.15
 Mineral Well Site: N37 56'38.66" W84 38'16.16", Z16 E707572.00 N4202243.52
 Saline-Magnesium Spring: N37 56'39.88" W84 38'03.63, Z16 E707843.37 N4202255.77

Figure 88. Overview of Keene Springs site (Google Earth 2015).

Quadrangle: Keene, KY 1984 10ft

Site Type: Health resort, boarding house, general store, doctor's office, restaurant

Resort Owners: Mason Singleton, Alfred McTyre

Transportation Access: Stage route Shawnee Run Road (now Keene Troy Pike, Kentucky 1267)

between Lexington and Harrodsburg, Delaney Ferry

Closest Water Sources: Cave Springs Branch of Clear Creek

Historic Site Date Range: 1848-1868

Features Observed at Springs:

- 2-story hotel building with original doors. Building is in four sections, each built at different times.

Figure 89. The Keene Springs Hotel (from west to east), 01/23/15

- The portion at the east end of the building (which currently houses a catering business and warm-season restaurant) may have been built elsewhere and moved to the site - a sloped floor attaches it to the next section of the building, as the floor levels did not match.

Previously, this section was the home of Mr. Wilson and his wife.

Figure 90. East section of the building, exterior.

Figure 91. East section of the building, interior.

- The next section is the former hotel lobby, which was converted into a general store by the 1930s and operated until 1965. Shelving is still present, as well as bottles, boxes of records, and the maintenance man's tools and lumber.

Figure 92. Main section of the hotel, with doors leading into the lobby area.

Figure 93. Detail of door handle of lobby entrance.

- The lobby is open to the oldest section of the building, where a section of the original wooden logs are visible in a partially destroyed wall (a leak in the joint between the two sections' roofs led to massive water damage, which also destroyed part of the floor).

Figure 94. Oldest section of the Keene Springs Hotel. Water damage visible in bottom right corner.

- This section is open to the final portion of the building (at the west end of the building), a former doctor's office, now full of tools and several glass cases from the old general store.

Figure 95. Western portion of the building.

- Dry-laid stone walls border the hotel grounds
- Across Kentucky 1267 (Keene Troy Pike) is an old livery stable, which Mr. Wilson believes was used by the hotel guests

Figure 96. Livery stable across the street from Keene Springs Hotel.

- Behind the hotel is a yard with several outbuildings: triangular chicken houses and a small plank barn or stable, a stone and plank building which formerly housed a generator, a root cellar, a smokehouse, and an old privy. Mr. Wilson states that the privy used to be enclosed by redwood boards, but that these have been stolen in recent years.

Figures 97 and 98. Rear of hotel.

Figures 99-102. Generator house, chicken house, root cellar, and privy.

- Mr. Wilson states that there was an additional wing of the hotel near the cellar and smokehouse, where the hotel dining room and ballroom were located.

Figure 103. Site of additional wing, with smokehouse and root cellar on the left.

- A modern home sits to the east of the hotel (across Hill Street). Mr. Wilson states that this is the site of the old mineral well, which was dry for as long as he could remember.
- Mr. Wilson states that two additional hotels or inns operated further to the west along Kentucky 1267 (Keene Troy Pike). At the site of the first, a modern home has been built.
- The third hotel site, at the intersection of Kentucky 1267 (Keene Troy Pike) and Keene Road, is bordered by dry-stacked stone walls. A wooden welcome sign and an old pump on a concrete platform stand on the sloped lot.

Figure 104. Possible site of another Keene hotel or inn.

- A series of stones lead up the slope in what looks to be an arranged pattern; possibly a stepping stone path up to where the building stood. Two more stones on a straight line, roughly 60 feet apart, could be pier stones which supported the structure.

Figure 105. Satellite view showing stone patterns (Google Earth 2015).

Extent of Site: 1,500 foot segment along KY 1267 (from Keene Road to the spring)

Disturbances: House built over stone mineral water well, house built over one of the two inns, water damage to the hotel building, alterations to the hotel building (including the modern alterations and re-uses, the removal or destruction of the dining and ballroom wing, and the alteration of the balcony at the west end of the building, which once wrapped around to the front of the hotel.)

Boyle County: Alum Springs, Linnietta Springs, Mitchell Spring, and Rochester Springs

Literature: Alum Springs

The earliest reference to a hotel at Alum Springs comes from D. G. Beers and Company's 1876 map, which shows the hotel directly across from the Louisville and Nashville depot and

post office (which opened in 1866, according to local informants), surrounded by five springs.

The United States and Kentucky Geological Surveys give conflicting information about the waters at Alum Springs: according to Albert C. Peale (1886:107), there were eight chalybeate springs at Alum, while Robert Peter (1885:173-175) reports one black sulfur and two chalybeate springs.

Figure 106. Alum Springs (Beers 1876).

Ms. Greene, who currently resides at the site of Alum Springs (now the Clyde Greene Farm), has researched the history of the resort, and notes that the *Stanford Semi-Weekly Interior Journal* (of Lincoln County, Kentucky) reported in April of 1887 that a new hotel was being built to replace one which had recently burned. According to Ms. Green's notes, the hotel which burned had belonged to Joseph Maxwell in 1879; the Beers map (1876) also shows Maxwell as the owner of the Alum Springs property. The new hotel was opened by proprietor D. H. Howard (who advertised five kinds of mineral water in his announcement) in June 1887. The building was constructed in an L-shape, 75 by 75 feet. On March 2, 1894, the second hotel burned down. It is unknown whether a third hotel was built afterward; a 1904 article (*Stanford Semi-Weekly*

Interior Journal) states that a "party of young ladies" visited Alum Springs on July 15, but this could easily have been an outdoor picnic rather than a resort visit.

Report: Alum Springs, Boyle County

Sara Deurell, Carolyn Crabtree, and Mike Denis visited 02/06/15

Investigation Type: Reconnaissance

Physiographic Division: Bluegrass

Current Owner: Clyde Greene and family

Locations:

Springhouse platform: N37 35'56.90" W84 49'48.74", Z16 E691540.70 N4163554.10

Melted glass and room number plaque recovered from: N37 35'58.97" W84 49'47.18",
Z16 E691588.42 N4163613.94

Nails recovered from: N37 35'59.72" W84 49'49.31", Z16 E691536.50 N4163632.88

Figure 107. Overview of Alum Springs site (Google Earth 2015).

Quadrangle: Junction City, KY 1984 20ft

Site Type: Resort

Resort Owners: Joseph Maxwell, D. H. Howard

Transportation Access: Louisville and Nashville Railroad

Closest Water Sources: Salt River, Clarks Run Creek

Historic Site Date Range: 1876-1904

Features Observed at Springs:

- concrete platform of the springhouse; current owner states that the springhouse stood until 1989, when it was blown down by high winds

Figure 108. Springhouse platform overlooking a modern spring-fed pond.

- foundation stones from the flat area northeast of the current owner's residence; while gardening in this area, the owner has also recovered a metal plaque inscribed, "Alum Spring's

Hotel" [sic], room 32, as well as ceramics and chunks of burnt, melted glass (two of the three hotels located at Alum Springs burned, according to the owner).

Figures 109 and 110. Foundation stones found on property.

Figure 111. Hotel room number plaque.

- a concrete tub or trough from the hotel era

Figure 112. Concrete tub from hotel era.

Extent of Site: At least 360,000 square feet

Disturbances: Agriculture and modern homes and outbuildings in the vicinity, addition of lakes to the former hotel grounds

Literature: Linnietta Springs

According to the literature, there were at least four mineral springs and two mineral wells at Linnietta Springs, where a hotel was operating by 1876 (Beers 1876; Peter 1885:175-176).

Proprietor J. S. Linney sent samples of the waters from his resort to be analyzed; Robert Peter of the Kentucky Geological Survey (1885:175-176) concluded that Linney's Well contained black sulfur water, that Fale's Spring was Epsom and slightly chalybeate, that Knott's Spring was a milder salt spring than Fale's and would make a good laxative, that Peter's Spring was an alkaline salt-sulfur which would make a good antacid and diuretic, and that the second well was almost pure water. According to an 1890 newspaper article (*Stanford Semi-Weekly Interior Journal*),

"white sulphur, black sulphur, epsom [sic], alum, salt and chalybeate, all within a few hundred feet of each other," could be found at Linnietta Springs.

Figure 113. Hotel pictured at site of Linnietta Springs. Alum Springs to left (Beers 1876).

In 1889, Linney partnered with John W. Shelby in ownership of the 80-acre resort, which was located at the intersection of the Louisville and Nashville and Cincinnati Southern Railroads in Junction City (Beers 1876; *Interior Journal* 1889). The following year, a 30-room hotel with a ballroom was added to the "scores of cottages on the grounds" and a dance was held to open the season; the resort hosted musical performances and dances every Friday evening throughout the season (*Interior Journal* 1890; *ibid.* 1892). Captain Thomas Richards became manager of the hotel in 1894, but in spite of his apparent success (the resort filled beyond capacity during his years as manager), Linnietta Springs was taken over in 1896 by James B. Owen (*ibid.* 1894; *ibid.* 1895; *ibid.* 1896). That same year, John W. Shelby bought J. S. Linney's share of the Linnietta Park Springs Company, with plans to build a new hotel and improve and expand the grounds (*ibid.* 1896).

There is no indication in the contemporary newspaper articles of when or if the improvements were made; there are announcements of dances and visitors through 1904, after which the resort essentially disappears until an advertisement in the real estate section of the *Interior Journal* of 1916. According to the listing, the property consisted of ten acres, the 30-room hotel, and a four-room cottage, for sale "dirt cheap...so cheap you could afford to move the buildings from it and then make good money," (*Interior Journal* 1916). The building was apparently purchased to house a counterfeit operation, as resident F. H. Floyd was arrested in October of 1916 for the distribution of counterfeit half dollars; the coin molds were found hidden under the hearth of the old hotel (*ibid.* 1916).

An attempt to find Linnietta Springs on February 6, 2015 yielded no evidence of the hotel site or grounds, as there is a modern housing project standing on the spot where, according to local informants, the resort used to be (UTM Z16 E694232.43 N4162569.90).

Literature: Mitchell Spring

The only mention of mineral springs at Mitchellsburg in the reviewed literature came from a United States Geological Survey report (Matson 1909:101-102), which stated that there was a white sulfur spring at Mitchellsburg. While in Boyle County, local informants Carolyn Crabtree and Mike Denis (both local historians and members of the Boyle County Genealogical Society) stated that the spring had been owned by Judge Mitchell, who had turned the site over to use as public land in his will. According to two local informants whose property borders the site of the spring, there was a hotel and a row of shops at the springs during the 19th century, which visitors came to via the Louisville and Nashville Railroad. The homeowner to the immediate east

of the springs states that a 19th century house stood on his property at the time of purchase, and that the hotel was supposed to have stood to the east of his residence.

Report: Mitchell Spring, Boyle County

Sara Deurell, Carolyn Crabtree, and Mike Denis visited 02/06/15

Investigation Type: Reconnaissance

Physiographic Division: Bluegrass

Current Owner: Spring is on public land, unknown owner of hotel site

Locations:

White sulfur spring: N37 36'05.49" W84 57'04.38", Z16 E680854.65 N4163582.00

Site of 19th century home: N37 36'05.94" W84 57'03.46", Z16 E680878.90 N4163593.24

Site of hotel: N37 36'05.90" W84 57'00.88", Z16 E680943.22 N4163594.35

(approximate)

Figure 114. Overview of Mitchell Spring site (Google Earth 2015).

Quadrangle: Parksville, KY 1984 20ft

Site Type: Resort

Resort Owners: Judge Mitchell

Transportation Access: Louisville and Nashville Railroad

Closest Water Sources: Buck Creek

Historic Site Date Range: unknown

Features Observed at Springs:

- White sulfur spring, now with a concrete cover, on public land

Figure 115. White sulfur spring at Mitchellsburg.

- Railroad berm across a small creek from the spring, roughly 30 feet south

- Current owner of adjoining property states that a 19th century house stood between the spring and his residence, and that the hotel stood in a flat area just east of his home
- Local informants stated that a train depot and a row of stores (which may have been associated with the resort) stood near the spring, along Scrubgrass Road (Kentucky 1856)

Extent of Site: unknown

Disturbances: Destruction of a 19th century structure near spring, agriculture east of the current owner's residence, where the hotel may have stood

Literature: Rochester Springs

According to the historic literature, Rochester Springs was located two miles south of Perryville. In 1819, William S. Rochester opened accommodations for visitors after the waters had been used for "several years" by "a number of persons," (*Kentucky Gazette* 1820). The following year, a notice was published stating that a new road had been opened from Perryville to the springs, near the Nashville Road (*ibid.* 1820). One of the springs is described as saline-sulfur with magnesium in "a feeble but constant stream, that bursts out about sixty feet below the summit of a ridge of coarse-grained shell limestone," (Moorman 1873:184-185; Peale 1886:108). There are two springs at Rochester pictured on Lloyd's Official Map of the State of Kentucky (1863), and three springs pictured on Swann's Military Map of the States of Kentucky and Tennessee (1863).

According to Carolyn Crabtree, local historian and former president of the Boyle County Genealogical Society, there was a Union Army encampment at Rochester Springs during the Civil War. The site was chosen for two reasons: it was a dry summer and the streams were dry, so the springs provided access to water, and the resort was also on a hilltop from which it was

easy to see the surrounding area. William S. Rochester's home is still standing, now occupied by Pam and John Goins, but so far no information has been found to place the hotel location in relation to the residence. Ms. Crabtree states that the location is difficult to determine because of the changed course of the Chaplin River (due to road and bridge work) since the hotel era, as well as the undetermined location of the old road which ran between Mitchellsburg Road and Lebanon Road.

Figure 116. Three springs pictured at Rochester (Swann 1863).

Report: Rochester Springs, Boyle County

Sara Deurell, Carolyn Crabtree, and Mike Denis visited 02/06/15

Investigation Type: Reconnaissance

Physiographic Division: Bluegrass

Current Owner:

Pam and John Goins
 1606 Mitchellsburg Road
 Perryville, KY 40468

Locations:

Rochester Family Residence: N37 37'49.75" W84 56'24.32", Z16 E681773.83
 N4166824.43

Spring 1: N37 37'49.49" W84 56'26.69", Z16 E681707.76 N4166838.55

Spring 2: N37 37'50.42" W84 56'26.31", Z16 E681706.09 N4166801.48

Springs 3-5: N37 37'46.48" W84 56'21.52", Z16 E681840.62 N4166722.29

(approximate)

Swimming hole: N37 37'44.38" W84 56'23.14", Z16 E681799.72 N4166627.51

Site of servants' quarters: N37 37'51.11" W84 56'23.95", Z16 E681777.48 N4166847.58

Site of racetrack: N37 38'00.13" W84 56'27.92", Z16 E681662.60 N4167140.20

Figure 117. Overview of the north half of Rochester Springs site (Google Earth 2015).

Figure 118. Overview of south half of Rochester Springs site (Google Earth 2015).

Quadrangle: Perryville, KY 1984 10ft

Site Type: Resort, Union Army camp during the Civil War

Resort Owners: Rochester

Transportation Access: Stagecoach

Closest Water Sources: Chaplin River, Buck Creek, small tributary to Chaplin River

Historic Site Date Range: 1819-1863 (at least)

Features Observed at Springs:

- Residence of the Rochester family, currently still in use as a residence.

Figure 119. Former Rochester home.

- Site of servants' quarters to the north of the house
- Civil War Union cartridge box recovered by owner from the front yard (surface)
- Two springs to the west of the residence (along the slope facing Mitchellsburg Road (Kentucky 1856). One is about halfway between the bottom of the slope and the driveway, directly downhill from the house's front door. There are a few stones which could be the remains of a stepping stone path.

Figure 120. Spring 1.

- The second spring is on the south end of the dry-laid stone wall near the river. The owner states that the spring used to come out of the limestone wall facing the road (as described in the historic literature); now, the spring is a seep between the limestone and dry-laid walls.

Figure 121. Limestone bluff where spring 2 used to flow.

- Local informants state that a flat region to the north of the Rochester house was a racetrack during the hotel era
- Three other springs are located in a wooded area about 400 feet southeast of the house
- Roughly 400 feet directly south of the house is a slow-moving section of the Chaplin River which, according to the owners, used to be a swimming hole. They state that an area near a group of trees bubbles up at certain times of the year, and may be an additional spring which feeds directly into the river. There is a substantial rosebush (now wild) in the grove of trees near the swimming hole.

Figure 122. Swimming hole, with a spring near the pair of trees (center).

- Two potential locations for the hotel are the hill to the east of the Rochester house or the ridge to the north, overlooking the site of the racetrack. Both of these areas provide a wide view of the surrounding landscape, which would have afforded the hotel with a vista and the Union Army with a strategic location during their encampment on the grounds of the hotel.

Figure 123. Modern pond on a hilltop (possible hotel location 1).

Figure 124. View from possible hotel location 2, looking west.

Extent of Site: At least 1,500 feet north-south and 1,000 feet east-west

Disturbances: Recent pond (local informants estimate 1980s) formed on top of the hill may be on hotel site. Agriculture in the surrounding area may have disturbed hotel grounds. Alterations to the bridge and road grading have changed the flow of the springs, according to the owners.

Lewis County: Esculapia Springs and Glen Springs

The literature states that the first guest accommodations in the area of Esculapia and Glen Springs was an inn owned by Peter January, the White Sulphur Springs Tavern, in the 1820s. Other taverns and boarding houses were erected in the area, including James McCormick's boarding house at McCormick's Spring (later known as Glen Springs) (Talley 2002).

Conflicting locations are given for Glen Springs in the literature and maps. According to Dr. William M. Talley (2002), Glen Springs was located two miles east of Esculapia Springs. However, both TOPO! software and Google Earth show Glen Springs in the valley between Eskalapia Mountain and Glen Springs Hill, and Winston J. Coleman (1942:24) describes the same general location: the base of Eskalapia Mountain, near Sulphur Springs Hollow, which is located opposite Glen Springs Hill in the valley. Glen Springs Hill is the location of the Jones Graveyard, which is given in the literature as the landmark directly across the road (now Kentucky State Road 989) from Esculapia Springs. Wherever its location, Glen Springs was built as a separate hotel, for which the literature does not provide a construction date. It was in operation as a boarding school (Glen Springs College) until at least 1921, possibly also still functioning as a summer resort (it was still used as a hotel in 1898, according to literature from the Lewis County Historical Society). The hotel had its own post office and store, a ballroom, and 160 furnished rooms; it eventually burned down, but no date is given for the fire (LCHS 2006:88-89; Talley 2002).

Figure 125. Glen Springs Hotel (LCHS).

Figure 126. Glen Springs Hotel (LCHS).

Figure 127. Newspaper clipping about the springs from Lewis County Historical Society.

Meanwhile, Marcus T. C. Gould had begun work on a resort at Esculapia in 1846, hiring Abner Hitchcock to build and manage a temporary boarding house and dry goods store to house and supply the German and Irish workers while the resort was built. There must already have been at least one hotel at the site, because Gould published a circular in early 1846, stating that the "present buildings," with a 100-guest capacity were to be "repaired and enlarged," and that 20 to 30 cottages were to be added, so that he expected to be able to open the resort that summer with accommodations for 200 guests (Gould 1846:7).

Figure 128. Early accommodations at Esculapia Springs (Hardy 1895).

He was also in the process of constructing additional bathhouses, a bowling alley, a croquet field, shooting gallery, "circular railway," swings, and "other gymnastic and kalisthenic [sic] apparatus," as well as landscaping "walks, drives, labyrinths, arbors, summer houses, social and solitary alcoves and niches, in the verdant and romantic slopes of the surrounding mountain, looking down upon the cottages and tenants of the plain," (*ibid.* 1846:7-8; Talley 2002). Fruit

trees and ornamental gardens were being planted around the chalybeate spring, and a livery stable would provide the guests of 1846 with horses, saddles, carriages, guns, and fishing tackle. Gould also set aside 100 rental lots for visitors who wished to build their own cabins on the resort grounds (*ibid.* 1846:8-9). Gould's hotel was two stories, with piazzas running the length of both levels and a piano in the downstairs parlor (Talley 2002).

The chalybeate spring, located near the road, was said to be excellent for "chronic disturbances of the female system," and the white sulfur waters (as with most sulfur springs) were said to cure all indigestion and stomach problems, kidney disorders, and liver disorders (Gould 1846:15-16; LCHS 2011:28; Talley 2002). The latter spring was located across the road from the hotel, flowing from a shale formation on the side of Glen Springs Hill, and though it was considered a strong white sulfur, it was described as odorless (LCHS 2011:28; Talley 2002). Later, an alum spring was advertised; it was located to the east of the sulfur spring, in the side of Eskalapia Mountain, and was recommended for treatment of chronic diarrhea and other disorders of the bowels. All three springs were located roughly 850 feet of the hotel, forming a triangle around it (LCHS 2011:28).

The Esculapia Mineral Springs Company was formed by 1849, the same year cholera broke out at the resort and one of the buildings was burned (LCHS 2011:7). The disease could either have been transported by resort guests arriving from the East Coast via the Ohio River steamboats at Vanceburg (12 miles from the resort), or by the nearby and newly-arriving tanyard workers, who experienced periodic cholera outbreaks beginning in 1848 as well. The resort's popularity understandably plummeted; by 1853, Gould moved back to his nearby hometown (Cincinnati) and his manager, Hitchcock, was taken to court over debts owed to his dry goods store suppliers (Talley 2002). The resort changed hands several times, and most of the buildings

burned in 1860. By the end of the Civil War, the resort was run down, the damage from the fire still unrepaired; Collins' 1874 history states that the springs were "still visited every summer," but that the resort had been "destroyed by fire, some years ago," (1976 [1874]:464-465)

The resort was renovated beginning in the 1880s, either by A. R. Mullins and Company (LCHS 2011) or by William F. Jones (Talley 2002), and was re-incorporated in 1884 as the Esculapia Springs Company (Jones and Mullins were both among the incorporators). It was once again advertised that Esculapia could accommodate 200 guests or more, new bathhouses (with hot and cold baths) were added, and a telephone line was installed in 1881 (Coleman 1942:22; Talley 2002).

Figure 129. Esculapia hotel (LCHS).

With 400 acres of grounds, it was a popular pastime at Esculapia to hike in the mountains and to nearby Peter's Cave, the alum spring, and Green Leaf Cottage (home of local poet and artist

Sibyl Walcott). Children at the resort often visited the cottage of "Aunt Betsy," a black servant of William Jones who was probably a former slave. Visitors also hiked into Sulphur Glen, where "several rustic bridges spanned the chasm" of a "wild gorge, strewn with large boulders," to carve their initials in the rocks—a potentially significant archaeological component of the site (LCHS 2011:5; Talley 2002).

An 1882 brochure noted that twice-daily steamboats from Cincinnati could carry guests as far as Maysville (from where a stagecoach ran to the springs) or Vanceburg (where daily coaches arrived from the springs). Vanceburg was also a stop along the Chesapeake and Ohio Railroad by this time (LCHS 2011:4-6). The brochure emphasizes that no liquor is sold at the resort, and announces that the season will be extended through October; another advertisement claims that there are no mosquitos at Esculapia Springs Hotel (*ibid.* 2011:6-8).

Ten years after the publication of the brochure, the second Esculapia Springs Hotel burned to the ground. It had struggled with competition from the Glen Springs Hotel in the late 1880s and early 1890s, and though Jones stated his intention to rebuild the hotel immediately, it is unclear when the new hotel was erected, or how large it may have been. The property was sold to Dr. C. M. Beech early in the 20th century, but in 1905 he shot a man (apparently one of the guests) during an argument; afterward, the resort was bought by William Hamrick (LCHS 2011:30; Talley 2002). In August, 1912, the third Esculapia Springs Hotel was destroyed by fire. It was not rebuilt (Talley 2002).

Report: Esculapia and Glen Springs, Lewis County

Sara Deurell and Zakary Kendall visited 02/07/15

Investigation Type: Reconnaissance

Physiographic Division: Bluegrass

Current Owner: unknown

Locations:

Jones Cemetery entrance: N38 30'34.54 W83 29'15.42", Z17 E283098.32 N4265311.56

Spring: N38 30'40.18 W83 29'23.41", Z17 E282905.54 N4265461.62

Brick debris: N38 30'39.75 W83 29'26.89", Z17 E282742.65 N4265433.31 (approximate)

Figure 130. Overview of Esculapia Springs site (Google Earth 2015).

Quadrangle: Charters, KY 1975 20ft

Site Type: Resort

Resort Owners:

Glen Springs: James McCormick

Esculapia Springs: Marcus T. C. Gould, William F. Jones, Dr. C. M. Beech, William
Hamrick

Transportation Access: Steamboat, stagecoach, C&O Railroad

Closest Water Sources: Ohio River, Big Branch of Salt Lick Creek

Historic Site Date Range: 1849-1912 (Esculapia), 1850-1921 (Glen)

Features Observed at Springs:

- Jones Cemetery across Kentucky 989 from hotel site

Figure 131. Jones Cemetery road and one of the Jones graves.

- brick debris in woods toward the foot of Eskalapia Mountain

Figure 132. Brick and stone scattered in the woods.

Figures 133 and 134. Bricks in the woods on Eskalapia Mountain.

- spring at the base of the mountain, near the barn (possibly the chalybeate spring: the water was clear, not red, as described in 1882 brochure)

Figure 135. Spring flowing behind barn from the mountain.

Extent of Site: Literature states 400 acres

Disturbances: modern agriculture and housing along the base of the mountain

Figure 136. Eskalapia Mountain.

Figure 137. Artifact recovered from Esculapia Springs Site (LCHS).

Wolfe County: Swango Springs Spa

The literature states that the Swango Springs Spa, in Hazel Green, Kentucky, consisted of three hotels and associated boarding houses, opening in 1895. The main building (the Rittenhouse Hotel) burned only five years later, but the mineral water (which appears to be chalybeate) continued to be bottled and sold until 1943 (Smith Lee 1981:565; Wells and Madigan 1983).

Report: Swango Springs Spa, Wolfe County

Sara Deurell and Zakary Kendall visited 02/08/15

Investigation Type: Reconnaissance

Physiographic Division: Eastern Coal Field

Current Owner: unknown

Location: N37 47'46.08" W83 24'21.16", Z17 E288174.39 N4185925.10 (Springhouse)

Quadrangle: Hazel Green, KY 1992 20ft

Site Type: Resort, Bottling

Resort Owners: unknown

Transportation Access: Lexington and Eastern Railroad

Closest Water Sources: Red River

Historic Site Date Range: 1895 - 1910

Figure 138. Overview of Swango Springs Spa site (Google Earth 2015).

Features Observed at Springs:

- arched stone springhouse, chalybeate water still flowing

Figures 139 and 140. Springhouse circa 1920 and 02/08/15.

Figures 141 and 142. Chalybeate water in the springhouse at Swango Springs.

- wooden outhouse at the bottom of the slope

Extent of Site: unknown

Disturbances: modern house sits on the site of one of the hotels; the other two hotel sites could be further up the hill in the woods.

Washington County: Tatham Springs

Tatham Springs (sometimes spelled Tatam) dates to 1893 and operated as a resort until sometime between 1918 and 1940, when it was acquired by the University of Kentucky and used as a 4-H camp. It was the only 19th century health spa in Washington County, and was listed in the National Register of Historic Places (NRHP) as "an important example of its type," (DeSpain 1983). The E-shaped hotel was two stories, with a three-sided two-story porch. The lobby, dining

room, and kitchen were located in the central portion, with guest rooms in the north and south wings. In the two courtyard areas formed by the E were bathhouses (women's in the north courtyard, men's in the south). A row of maples lined the northeast side of the hotel grounds. There is a mild sulfur spring roughly 400 feet to the southwest, across Glens Creek from the hotel, but a dry springhouse is located near the hotel site (KGS 2015). DeSpain's map (1983) shows a swimming pool behind the hotel; he does not note the time period the pool belongs to. According to local informants, the hotel (abandoned) burned down in April of 2006, and a store associated with the resort is also no longer present.

Report: Tatham Springs, Washington County

Sara Deurell and Zakary Kendall visited 02/08/15, late afternoon (3:00-4:00)

Investigation Type: Reconnaissance

Physiographic Division: Bluegrass

Current Owner: University of Kentucky (1983)

Locations:

Hotel chimney: N37 51'50.92" W85 07'29.38", Z16 E664947.09 N4192399.86
 Springhouse: N37 51'50.60" W85 07'31.96", Z16 E664876.13 N4192378.52
 Site of store: N37 51'52.20" W85 07'24.11", Z16 E665070.92 N4192446.33
 Pavilion: N37 51.50.81" W85 07'26.09", Z16 E665028.86 N4192397.97
 Spring: N37 51'43.24" W85 07'33.22", Z16 E664852.38 N4192186.26 (approximate)

Quadrangle: Cardwell, KY 1984 20ft

Site Type: Resort, Camp

Resort Owners: Tatham Springs Co., Inc., J. P. Board, William C. McChord, Ivan B. Carey, Dr.

J. B. Yates

Transportation Access: Bluegrass Parkway

Closest Water Sources: Chaplin River, Glens Creek

Historic Site Date Range: 1893-1940

Figure 143. Overview of Tatham Springs site (Google Earth 2015).

Features Observed at Springs:

- brick chimney of hotel, standing

Figures 144 and 145. Double-sided chimney at Tatham Springs.

- pavilion, which may date to the hotel era but have been built for the 4-H camp
- concrete walks, steps, and platforms (N=2) associated with the hotel (machinecut nails [which typologically date to before 1880], glass bottle and metal fragments found on the platform associated with the main entrance of the hotel)

Figure 146. Concrete steps on one side of the L-shaped walk, with pavilion in the background.

Figure 147. Concrete platform with springhouse in the background.

Figure 148. Second concrete platform, with steps intact.

- stone and concrete well northwest of the entrance platform (water present, no smell of sulfur)

Figures 148 and 149. Well next to entrance.

- frame and corrugated metal springhouse on a concrete platform southwest of the hotel site

Figures 150-153. Springhouse.

- concrete slab in Chaplin River to the northwest of the hotel site

Figure 154. Concrete slab in Chaplin River.

Figure 155. Looking northeast toward the springhouse (left) and hotel site (center to right).

Extent of Site: Approximately 360,000 square feet

Disturbances: Two lakes on the grounds, not present in 1997 satellite imagery (see Figure 157),
destruction of hotel building and store.

Figure 156. Tatham Springs Hotel, 1983 (DeSpain 1983).

Figure 157. Satellite imagery of Tatham Springs Hotel (and store, right), 1997 (Google Earth 2015).

Figure 158. Satellite imagery of Tatham Springs (sans hotel), 2008 (Google Earth 2015).

Trigg County: Cerulean Springs

According to the literature, Cerulean Springs was originally a black sulfur spring, discovered by Robert Goodwin when he followed a Native American trail to the spring (Stice 1927; Turner and Anderson 2006:18). The historical marker at the site states that in 1811, the New Madrid Earthquake changed the chemical composition of the waters (now blue sulfur), and that its history as a resort began with a set of log cabins erected on a 60-acre tract in 1817 by Kinchen Killebrew. Other locals (including Joseph Caldwell, Henry Crow, Landers, and Gardner) built cabins near the springs, adding to the accommodations as the water's reputation spread (Stice 1927). By 1835, when the springs and the surrounding properties were bought by Colonel Philip Anderson, it was considered a prominent watering place (Rennick 1981:55; Stice 1927); he must have built a hotel at the site, because Stice (1927) refers to the hotel's bar, and the historical marker states that John W. Hicks purchased the "hotel and 50 acres" in 1868. The literature does not mention the capacity of this first hotel, which burned down and was replaced in 1869. Turner and Anderson (2006:12, 40) write that the resort operated its own farm (130 to 300 acres) to provide fresh produce, milk, mutton, beef, and pork for the hotel dining room, from before the second hotel was built until 1925.

The second hotel was a two-story frame building with 22 rooms, which was purchased by J. T. Harper sometime prior to 1879. Harper "installed a ram and subterranean pipe to supply spring water to hotel guests," as well as adding a ballroom and bowling alley to the hotel, according to the historical marker. In 1882, a hotel store was constructed on the grounds, slightly northwest of the hotel. Its first floor included a grocery and souvenir shop, a saloon, and post office; the second floor housed a "poker flats" gambling hall (Turner and Anderson 2006:10). In 1887, the first train into Cerulean arrived on the Illinois Central, bringing visitors, merchandise,

and food to the resort (located just across the road from the Cerulean Depot) (*ibid.* 2006:45). The property changed hands several times in the 1880s and 1890s: S. W. Gunn and Co., John W. Stith, and Sam Boyd each bought and sold the property until brothers E. Y. and Captain Richard S. Pool purchased the 131 acre resort in 1899 (historical marker; Stice 1927; Turner and Anderson 2006:15).

Figure 159. The 1869 hotel, with the 1901 annex to the right (Kentucky Historical Society 2015).

Under the Pools' management, the resort was incorporated as Cerulean Springs Hotel Company, and a three-story hotel annex was built in 1901, increasing the number of guest rooms by 50. The Pools held conventions and balls at the resort whose attendees overflowed the capacity of his hotel, so the townspeople of Cerulean would rent rooms, attics, and even their porches to visitors. They also began advertising the resort's natural surroundings: the Muddy Fork Creek (which offered fishing within sight of the hotel), and the limestone formations of the hotel park, including the "Grotto," a cave which had opened in one of the formations in 1880 and

in which a "well-preserved" skeleton had been found (Stice 1927; Turner and Anderson 2006:9, 14, 31-32). Tom O. Turner bought the resort in 1903; the following year, the ballroom, bowling alley, barbershop, and bathing rooms burned.

Figure 160. Postcard of Cerulean Springs Hotel Annex, built 1901 (Kentucky Historical Society 2015).

In 1905, a new dancing pavilion was built, and a skating rink was added two years later (historical marker; Turner and Anderson 2006:10). Resort souvenirs sold in the hotel store included imported transfer-print porcelain from Germany, depicting the Cerulean Springs Hotel (Turner and Anderson 2006:30). In 1914, Tom Turner advertised that the 100-room Cerulean Springs Resort operated all year, with individual baths (hot and cold) for each room. The hotel had been renovated to accommodate 150-200 visitors, with indoor plumbing and gas lights installed. A new bowling alley had been built, an orchestra had been hired for the summer season, and weekly balls were planned for every Thursday night. Fishing, hunting, riding, and the 40-acre park's "curious subterranean caverns" are listed among the amusements available at

Cerulean Springs Hotel, and improvement and enlargement of the vegetable gardens and farm are mentioned in the advertisement, as well. The waters of Cerulean Spring were advertised to be good for the kidneys, liver, stomach, and skin, curing rheumatism, gout, neuralgia, and Bright's disease. They were also claimed to be an "antiseptic in contagious and infectious diseases," particularly good for fighting fever, malaria, jaundice, inflammations of the digestive organs, and indigestion (*ibid.* 2006:40).

Figure 161. Postcard of the dancing pavilion (Kentucky Historical Society 2015).

Despite the additions and advertisements, in 1918, the resort and 40 acres were sold to Bessie Murchie, for half the price at which Turner had purchased the property 15 years earlier; in 1924, however, the property was bought by G. A. Hankley for \$10,000 (twice what Murchie had paid six years before) (historical marker). On the evening of August 29, 1925, a fire broke out in the basement of the hotel annex, where the boilers for the steam rooms were located. Both sections of the hotel burned to the ground (Turner and Anderson 2006:33-36). The literature states that by 2006, the only remaining structures were a concrete silo from the hotel farm and the springhouse foundation; a replica of the original springhouse was erected in 2006 (*ibid.* 2006:29, 36-38).

Report: Cerulean Springs, Trigg County

Sara Deurell visited 02/09/15

Investigation Type: Reconnaissance

Photos and Maps: (see Appendix B)

Physiographic Division: Mississippian Plateau

Current Owner: unknown

Locations:

Railroad bed: N36 57'58.35" W87 42'34.51", Z16 E436811.51 N4091379.24

Concrete structure: N36 57'57.71" W87 42'36.73", Z16 E436780.93 N4091338.80

Silo: N36 57'56.83" W87 42'37.30", Z16 E436763.74 N4091313.77

Springhouse: N36 57'54.94" W87 42'43.89", Z16 E436601.45 N4091251.50

Figure 162. Overview of Cerulean Springs site (Google Earth 2015).

Quadrangle: Gracey, KY 1989 10ft

Site Type: Resort

Resort Owners: Kinchen Killebrew, Colonel Philip Anderson, John W. Hicks, J. T. Harper,

Captain Richard S. Pool, Tom O. Turner, Bessie Murchie, G. A. Hankley

Transportation Access: Illinois Central Railroad

Closest Water Sources: Muddy Fork of the Little River

Historic Site Date Range: 1817-1925

Features Observed at Springs:

- cut stone pile between railroad bed and hotel site
- railroad bed between Muddy Fork River and Cobb Road (State Road 126). Some railroad ties remain in place, partially overgrown with vegetation. Others have been moved and deposited around the edges of a graveled area facing the hotel site.

Figure 163. Railroad bed across Kentucky 126 from Cerulean Springs site.

- a concrete structure (possibly a cistern) and a concrete silo stand in the woods to the right of the drive to the springhouse, facing State Road 126. Both contain trash, debris, and vegetation. Through the doorway of the first (shorter) structure, a wooden cover or platform is visible under the debris. The opening into the silo is roughly 3 feet from the ground; a tree is growing inside it and the top branches reach above the rim of the structure. The interior is full of modern black plastic garbage bags, old oil cans, and debris.

Figure 164. Silo (left) and possible cistern (right).

Figure 165. Concrete structure at Cerulean site.

- collapsed cinder block stack, possibly a chimney, behind the first structure

Figure 166. Collapsed cinder block structure.

- square wooden post near the cinder blocks, appears to be burnt
- scattered throughout the woods, around 20 screw-top brown bottles with short necks and no labels, approximately 6-7 inches tall

Figure 167. Screw-top glass bottle, possibly a mineral water bottle from the hotel.

- depression in the southwest side of the hill (toward the springhouse)

Figure 168. Depression in the hillside.

- natural stone in the hillside toward the springhouse; some appears random, but a group of stones appears to be at a right angle

Figure 169. Right angle of stones may indicate a structure or path.

- fragment of clear bottle glass found toward the bottom of the hill
- springhouse at the end of the drive, with a gravel roundabout encircling a pair of trees. The concrete walk reads "1811." The rails are freshly painted and the concrete walk and stairway down to the water appear well-maintained. The roof is green tin, with white trellising providing ventilation to the underground portion of the structure. The water, as the name of the spring implies, is a bright milky blue, and smells strongly of sulfur.

Figures 170-173. The springhouse and blue sulfur water.

Extent of Site: Roughly 302,500 feet squared, including the site of the railroad platform.

Disturbances: Agriculture behind the springhouse might affect part of the old hotel grounds,

since there were several large structures mentioned in the literature and the historical marker. A graveled yard where several tractor-trailers are parked to the south of the site may also cover some of the hotel-era structures. The bridge and current path of State Road 126 appear to truncate the old rail line, and the graveled area across from the hotel site holds no sign of the old train platform.

Figure 174. View from the top of the hill, where the hotel stood.

Conclusion

Review of historical and geological literature suggests multiple lines of research questioning relevant to these types of sites. Medical trends in 19th century America, such as the popularity of alternative medicine and patent formulas containing opiates, correspond to shifts in popularity of mineral spring resorts. Other factors important in understanding the role of these sites in their historical and cultural contexts include the effects of changing transportation, the impact of the American Civil War and economic shifts, the variety of activities and types of

spring water offered by the resorts, and the increase of urbanization in the first few decades of the 20th century. By correlating data from the historical and geologic literature with findings from field surveys, new approaches to these sites can be considered for future excavations.

The reconnaissance of this 17% sample and the archaeological research conducted by Western Kentucky University, Brockington and Associates, and the Kentucky Archaeological Survey at Massey Springs, Tioga Springs, and Crab Orchard Springs (respectively) suggests that there is significant archaeological potential in excavation of Kentucky's 19th century health resorts. Of the 12 sites visited, 50% (N=6) resulted in an approximate location of the hotel site and at least one associated outbuilding (Cerulean, Tatham, Alum, Keene, Drennon, and Grayson Springs); once the hotel itself is located, associated outbuildings can be found based on its position, revealing a more thorough and accurate understanding of the site.

In some cases, such as the Gratz, Rochester, and Mitchell Spring sites, reconnaissance of nearby sites (Drennon Springs and Alum Springs) resulted in new locations of hotels which were relatively obscure in the literature, but which local informants could identify and give directions to. These types of sites may have been small, local resorts, less expensive alternatives to the hotels of national repute, or may have been overshadowed by the popularity of other resorts (Gratz may have been overshadowed by Drennon Springs, for example). Both famous resorts and small-scale local resorts must be considered in interpreting the role of mineral spring hotels in 19th century medicine, as well as in the lives of guests, proprietors, servants, and employees during the hotel era.

A useful venue for presenting the results of this study to the public might be giving talks at historical societies of counties where mineral spring resorts are located, which would also provide an opportunity to network with the people who would be most interested in further

research on this topic. This could lead to further opportunities for large-scale excavations of mineral springs resort sites for local and regional tourism. Given the interest that property owners and historical and genealogical societies in Grayson, Jessamine, Boyle, and Lewis Counties have taken in this project, future researchers would most likely find a great deal of support in local communities.

Suggested Future Research

Economic Study. The literature mentions hotel room and board prices for many of the sites, including the dates of price changes in many cases (Collins 1976 [1872]; Gould 1846; Llewellyn 1970; Stice 1927; Talley 2002). According to a *Courier-Journal* retrospective on the resort at Cerulean (Trigg County), a "family could stay at Cerulean cheaper than keep house," with the room and board set at only seven dollars a week for an adult and \$3.50 per child. (Stice 1927). Using additional sources, it would be possible to conduct an economic study comparing the cost per day of mineral spring resorts with the average living wage and cost of living over time.

Additional Sources. Additional sources relating to these sites includes information from other county and state historical societies, further investigation of newspaper archives, and additional historic articles and books discussing mineral spring outside of Kentucky, which could be used to study the overall national trends of spring resorts and how the national trends compare with what is seen in Kentucky sites. Since there are numerous studies of gender and class relations at Virginia's spring resorts and Sarasota Springs in New York, these could provide insight on trends at Kentucky springs, as well. Hotel registers could also provide information about where resort guests were from, whether a resorts' draw expanded or changed over time,

and whether the Civil War changed the regional demographics of resort guests. Property and probate inventories from county courthouses could provide information about slaves owned by resorts, as well as outbuildings, furnishings, and size of resort property over time.

Proposal for Beginning Excavations

Land owner permission or permits to excavate the sample sites would need to be obtained before fieldwork can proceed beyond a non-invasive mapping project. Location and excavation of privies would be the optimal place to begin investigation, as these features are the most likely to yield a concentration of artifacts which can address questions about consumption patterns and medical trends over the timespan of the 19th and early 20th century occupation(s). Since privies were often used as general refuse pits, artifacts such as medicinal bottles, alcohol bottles, pottery sherds, tableware, and animal bones from food waste found in such features could provide valuable information about the diversity of goods and sources of goods (regional, local, or international), quality and diversity of foods, and types of medicine in use at the site.

Privies would most likely be located behind the hotel structure in pairs (one for the men and one for the women), behind rental cottages on the resort grounds, and behind any separate structures for servant quarters. Since rose bushes were often planted nearby to obscure both the outhouse and the smell, vegetation could also provide guidance to these features. Where obvious depressions indicating the presence of a privy are not found, a phosphate probe can be used to test the area. Testing should be done on a ten by ten meter grid, checking each square meter at the node. A push core can be used to check the depth of the privies discovered.

Although privies are generally only one meter squared, it was common practice in the country to dig a new privy adjacent to the old one, rather than emptying ("dipping") the existing

privy when full. Therefore, during excavation, four by four meter units should be excavated over each suspected privy, shovel skinning to below the plow zone (50 cm. deep).

For the lab analysis, artifacts will need to be washed, catalogued, described, and entered into a FileMaker database. Temporally diagnostic artifacts can be assessed and literature consulted for estimates of dates. The database can then be used to analyze the information statistically in order to substantiate correlations and patterns over time.

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Appendix A

UTM Locations of Resort Sites from TOPO! and Google Earth (Table 4)

Name	County	UTM
Allen Springs	Warren	16S, 561084E, 4076424N
Alum Springs	Boyle	16S, 691540E, 4163554N
Bee Spring	Logan	16S, 563403E, 4127227N
Big Bone Lick	Boone	16S, 694984E, 4306825N
Cerulean	Trigg	16S, 436792E, 4090614N
Clear Creek Springs	Bell	17S, 256484E, 4068058N
Crab Orchard Springs	Lincoln	16S, 720514E, 4149324N
Dawson Springs	Hopkins	16S, 438518E, 4113653N
Diamond Springs	Logan	16S, 502150E, 4098823N
Drennon Springs	Henry	16S, 669690E, 4263959N
Dripping Springs	Garrard	16S, 658464E, 4277729N
Esculapia	Lewis	17S, 282905E, 4265461N
Glen Springs	Lewis	17S, 283314E, 4265431N
Graham Springs	Mercer	16S, 689976E, 4181632N
Gratz Springs	Owen	16S, 678481E, 4260815N
Grayson Springs	Grayson	16S, 568592E, 4146100N
Hardin Springs	Hardin	16S, 565634E, 4162751N
Keene Springs	Jessamine	16S, 707515E, 4202222N
Kirkwood Springs	Hopkins	16S, 432181E, 4123009N
Latonia Lakes	Kenton	16S, 716790E, 4316155N
Linnietta Springs	Boyle	16S, 694232E, 4162569N
Manitou	Hopkins	16S, 448669E, 4136205N
Massey Springs	Warren	16S, 548622E, 4088893N
Mitchell Spring	Boyle	16S, 680854E, 4163582N
Oil Springs	Clark	17S, 329017E, 4186522N
Olympia Springs	Bath	17S, 265497E, 4216070N
Rochester Springs	Boyle	16S, 681773E, 4166824N
Rockcastle Springs	Rockcastle	16S, 736241, 4100644, 1230
Russell Springs	Russell	16S, 669956E, 4102813N
Sebree Springs	Webster	16S, 452968E, 4161389N
Sulphur Well	Metcalf	16S, 621361E, 4106902N
Swango Springs Spa	Wolfe	17S, 288174E, 4185925N
Tatham Springs	Washington	16S, 664947E, 4192399N
Tioga Springs	Hardin	16S, 590140E, 4202017N
Upper Blue Licks	Nicholas	17S, 250310E, 4246516N

Sources: Allen 1967 [1872]; Coleman 1942; Collins 1976 [1874]; Google Earth 2015;

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