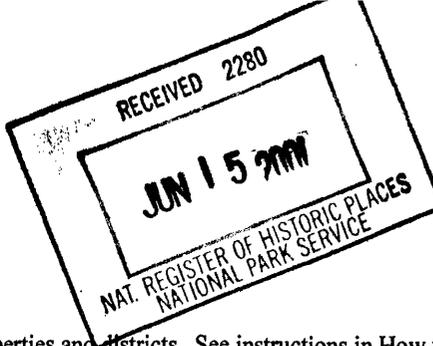


United States Department of the Interior  
National Park Service



7/13

### National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

#### 1. Name of Property

historic name Salt peter Cave  
other names/site number 15Cr99, Swingle's Cave, Swindell's Cave

#### 2. Location

street & number Carter Caves State Resort Park N/A  not for publication  
city or town Olive Hill  vicinity  
state Kentucky code KY county Carter code 043 zip code 41164

#### 3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this  nomination  request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property  meets  does not meet the National Register Criteria. I recommend that this property be considered significant  nationally  statewide  locally.

( See continuation sheet for additional comments.)

Signature of certifying official David L. Morgan, SHPO and Executive Director Date 6-13-2001  
State Historic Preservation Office/Kentucky Heritage Council

State or Federal agency and bureau

In my opinion, the property  meets  does not meet the National Register criteria. ( See continuation sheet for additional comments.)

Signature of commenting or other official \_\_\_\_\_ Date \_\_\_\_\_

State or Federal agency and bureau

#### 4. National Park Service Certification

I, hereby certify that this property is:

- entered in the National Register
- See continuation sheet.
- determined eligible for the National Register
- See continuation sheet.
- determined not eligible for the National Register
- removed from the National Register
- other (explain): \_\_\_\_\_

for Signature of the Keeper Date of Action  
Erika Martin Seibert 7/24/01

**5. Classification**

**Ownership of Property**

(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

**Category of Property**

(Check only one box)

- building(s)
- district
- site
- structure
- object

**Number of Resources within Property**

(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
_____	_____	buildings
1	_____	sites
1	_____	structures
_____	_____	objects
2	_____	Total

**Name of related multiple property listing**

(Enter "N/A" if property is not part of a multiple property listing.)

N/A

**Number of contributing resources previously listed in the National Register**

0

**6 Function or Use**

**Historic Functions**

(Enter categories from instructions)

Cat: INDUSTRY      Sub: extraction facility,  
RECREATION      saltpeter mine  
\_\_\_\_\_              caving and tourism  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Current Functions**

(Enter categories from instructions)

Cat: RECREATION      Sub: commercial cave  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**7. Description**

**Architectural Classification**

(Enter categories from instructions)

N/A

**Materials**

(Enter categories from instructions)

foundation N/A  
walls  
  
roof  
other

**Narrative Description**

(Describe the historic and current condition of the property on one or more continuation sheets.)

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## 8. Statement of Significance

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### Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

### Criteria Considerations

(Mark "X" in all the boxes that apply.)

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

### Areas of Significance

(Enter categories from instructions)

ARCHAEOLOGY: Historic-Non-Aboriginal  
INDUSTRY  
MILITARY  
ENTERTAINMENT

### Period of Significance

1812-1950  
War of 1812

### Significant Dates

1815  
1869  
1946

### Significant Person

(Complete if Criterion B is marked above)  
N/A

### Cultural Affiliation

Euro-American

### Architect/Builder

N/A

## Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

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## 9. Major Bibliographical References

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### Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

#### Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey  
# \_\_\_\_\_
- recorded by Historic American Engineering Record  
# \_\_\_\_\_

#### Primary Location of Additional Data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository:

University of Kentucky

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**10. Geographical Data**

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**Acreage of Property** 2.39 acres

**UTM References**

(Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing		Zone	Easting	Northing
1	<u>17</u>	<u>314471</u>	<u>4249515</u>	3			
2	_____	_____	_____	4			

See continuation sheet.

**Verbal Boundary Description**

(Describe the boundaries of the property on a continuation sheet.)

**Boundary Justification**

(Explain why the boundaries were selected on a continuation sheet.)

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**11. Form Prepared By**

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name/title Susan Neumeier, Staff Archaeologist

organization Kentucky Heritage Council

street & number 301 Washington Street

city or town Frankfort

state Kentucky

date 4/1/01

telephone 502-564-7005

zip code 40601

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**Additional Documentation**

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Submit the following items with the completed form:

**Continuation Sheets**

**Maps**

A USGS map (7.5 or 15 minute series) indicating the property's location.

A Sketch map for historic districts and properties having large acreage or numerous resources.

**Photographs**

Representative black and white photographs of the property.

**Additional items**

(Check with the SHPO or FPO for any additional items)

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**Property Owner**

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(Complete this item at the request of the SHPO or FPO.)

name \_\_\_\_\_  
street & number \_\_\_\_\_ telephone \_\_\_\_\_  
city or town \_\_\_\_\_ state \_\_\_\_\_ zip code \_\_\_\_\_

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**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

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## National Register of Historic Places

### Continuation Sheet

Section 7 Page 1

Saltpeter Cave  
Carter County, Kentucky

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#### Section 7 Narrative Description

Saltpeter Cave, 15Cr99, is a limestone cave located within Carter Caves State Resort Park near Olive Hill in Carter County, Kentucky. Its passages have a surveyed length of just under 3.05 km. Lying within the northern portions of the Cumberland Plateau, the hills in the region are typically around 305-427m in elevation. The valley floors are typically 152-213m in elevation. Tygart's Creek, roughly one-half mile away from the entrance to the cave, is the closest major waterway. In the valley below the entrance of the cave is Cave Branch, a relatively small stream. Saltpeter Cave formed along a bedding plane near the top of the Slade (limestone) Formation.

The cave temperature remains steady, around 47 degrees Fahrenheit year-round, with a relatively high humidity of approximately 84%. This cave has broad passages of sandy soil floors that are generally very dry and dusty. The linear passages are "broken" by several wide areas, referred to as rooms. There are five rooms in the cave. Each of these rooms has relevance to the niter mining operation. The passages connecting the rooms also contain resources related to the historic activity in the cave. The rooms are called the First Room, the Reproduction Room, the Miner's Bedroom, the Vat area, and the Potato Bin room.

Dirt and gravel and large pieces of broken limestone indicate that the cave has been altered by both natural and human processes. One of the most obvious human alterations is the presence of long piles of dirt, piled to the ceiling, that represent the spoil by-products of nineteenth-century niter mining. More than 620 cubic meters of dirt comprise these piles (Duncan 1993). Historic artifacts have been gathered over the years and moved to the first main room of the cave, destroying any contextual information for them. However, archaeological investigations in 1992 discovered *in situ* vat remains in several areas of the cave (Duncan 1993). Currently, the cave is utilized for commercial tours through the late spring and summer. Starting in 1997, the Park personnel decided to undertake a five-year experiment to encourage endangered bat populations to hibernate in the cave during the winter months. Therefore, the cave is closed to visitation from Labor Day through Memorial Day.

The earliest historic use of the cave, and the primary area of significance is its function as a saltpeter, or niter, mine. Local tradition holds that the cave was mined for niter to be used in gunpowder for the War of 1812 (e.g., Plummer family records, informant interviews). The stories specifically mention that the niter produced at this site was made into gunpowder that was utilized at the Battle of New Orleans in 1815. Unfortunately, thorough archival research has not yielded any documentation either substantiating or refuting that claim. The owner and/or operators of the mine are unknown, and the miners

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## National Register of Historic Places

### Continuation Sheet

Section 7 Page 2

Saltpeter Cave  
Carter County, Kentucky

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themselves remain anonymous (although it is likely that local farmers were employed in the mine).

Archival research was marked by a lack of information. The Hagley Museum in Delaware was a potential source of information related to early niter mining. The Hagley Museum and Library is located on the site of the DuPont Corporation's early nineteenth century powdermill. The company's archives were searched in order to ascertain whether DuPont had purchased any saltpeter from the operation at 15Cr99, Saltpeter Cave, and to see if there were any relevant references to this site. This facility was contacted twice and searches were conducted looking for materials that specifically referred to the following keywords: Greenup County, Kentucky saltpeter, Carter County, Carter Caves, Saltpeter Cave, Swingle's Cave (another name for this site). Searches were also conducted for any kind of purchasing or manufacturing records from the project area for both the War of 1812 and Civil War periods. All searches were negative. The National Archives was contacted and again results were negative. Greenup County records had been destroyed in an Ohio River flood in 1937. A local historian was able to provide copies of nineteenth century newspaper clippings, as well as some of his own articles that deal with this cave.

Research undertaken at the University of Kentucky Special Collections and at the Kentucky State Archives attempted to locate military purchase orders, census records, manufacturing schedules, general county histories, and genealogical records as a means of documenting the mining operation at this location. Again, the results were negative.

The entrance to the cave has been modified drastically during the mid-twentieth century during construction and renovation as the land became a State Park. Currently, a small limestone block and iron bar structure, resembling a jail cell, gates the entrance. The 1856 newspaper article mentioned above provides a very different description of the entrance to the cave, describing it as a narrow, tall, sinuous passage from the surface into the first room. Concrete stairs now lead from the surface into the first room of the cave. This room has been modified by the mining activities. The true width of the room (i.e., from limestone wall to limestone wall) is 85 feet. The room has been narrowed by the presence of "spoil" piles placed by the miners. Spoil piles are created as part of the mining process, as vats of dirt are emptied to the side to be refilled with new, nitrogen-filled cave earth. The miners correctly believed that if left alone for a period of time, the nitrogen content in the soil would replenish itself, so they piled the depleted dirt nearby, most likely to minimize the effort in moving the dirt again later when it was ready for reprocessing. The width of the room today is approximately 20 feet. These spoil piles are quite long and run through the first long passages of the cave. They are typically piled to the ceiling (ranging from 4-7 feet high) and are approximately 3-4 feet wide.

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## National Register of Historic Places

### Continuation Sheet

Section 7 Page 3

Saltpeter Cave  
Carter County, Kentucky

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The other striking feature of the first room is the abundance of saltpeter vat remains. At least 17 of the 25 identified vats have been documented in this room alone. Over the approximately 145 years of tourism in this cave, the wooden sides of these vats have been removed for a variety of reasons: vandalism, for use as torches or as fire fuel, and most likely as souvenirs. However, the cave is quite dry, and when the mining operation ceased, the miners literally left the cave "as is". Over time, the water and soil mixture in the vats slowly dried, creating fine casts of the vats as they had been. These are readily apparent today. Archaeological investigations in 1992 revealed intact wooden sides, bottoms, and troughs buried just below the surface in this room (Duncan 1993).

Another striking feature of this cave is the fact that its ceilings are blackened with heavy deposits of soot from untold fires and torches in the cave over the years. As one progresses along the commercial tour route, the next wide area approached, after the end of the spoil piles, is an area known as the Reproduction Room. Named for a mining display based on the designs of the artifacts and features found within the cave, this room has very few mining related features. The predominant historic feature in this section of the cave is one alcove area with historic graffiti, indicating a group of prominent citizens from Portsmouth, Ohio visited the cave on July 17 and July 19, 1869 and left their names in charcoal in two sections of the cave. There are only a few in this location. The other area, known as the "Signature Room," contains the names of all members of the party, written in two hands. Graffiti has been scratched into the soot, carved into the limestone ceilings, and painted throughout the cave. The vast majority of it is from the mid-twentieth century.

The far end of the Reproduction Room is marked by an area where the commercial trail was excavated through the cave soil. This area seems to be beyond the extent of the miners' excavations. The miners most likely had to crawl through this passage, or through a maze-like series of passages in the middle portion of the cave. At the start of this passage is an area said to be where the miners stopped digging. According to local legend, the miners had excavated their way to this point in the cave, and stopped when the War of 1812 ended. The war's end dropped the price of saltpeter, and made the venture much less profitable (e.g., the price before and after the war ranged from 12-15 cents per pound, during the war it ranged from 75 cents to one dollar per pound). Although this story has not been substantiated through archival research, and no archaeological excavations were undertaken in this area, there are pick marks in the exposed face of soil.

As one proceeds down this passageway, where the ceiling drops to just under 6 feet high and the path narrows to 3-4 feet wide, there is a feeling of entering a section of the cave

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National Park Service

**National Register of Historic Places**

**Continuation Sheet**

Section 7 Page 4

Saltpeter Cave  
Carter County, Kentucky

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that has been little used in the past. This feeling is proven erroneous in just a few feet when a "T" intersection is reached. One now enters the far end of the main trunk of the cave. There is a massive pile of broken limestone blocking the passage between the area near the entrance to the cave, and this back portion. In this passage, the ceiling height is quite high (at least 15 feet for most of its length), the passage is wider (approximately 6-12 feet wide), and has three striking features. When standing at the intersection, just to the right is a low-ceilinged, large room. This is known as the "Miner's Bedroom," and is said to have been a resting area for the off-duty miners. A long shelf lines one wall. The ceiling of this shelf has heavy soot deposits. The tradition states that the sleeping miners enjoyed the warmth of fires built along this shelf. No archaeological work has been undertaken in this room. Turning back and passing the intersection leads one to another area related to the saltpeter mining. There is one V-shaped vat tilted 90° along the right wall about midway down this passage. Of the dozens of vats in this cave, fewer than half a dozen are V-shaped. These vats appear to represent mining episodes that occurred after the main commercial mining in the cave.

Finally, the end of this passage section is reached at the breakdown pile. At the foot of this pile is a large concrete vat constructed in 1937. There is a drip above the vat, one of the few places in the cave with a steady source of water, and the water was collected here, piped out of the cave to the hillside, then fed to the fountains of a circa 1930s lodge that used to be where the visitors' center and its parking lot are now.

Local tradition holds that a wooden vat used by the miners to collect water for their operation was once located in this same place. However, the water source today is only a steady drip, and there is no reason to assume it was much heavier in 1815. The miners would have required a much larger volume of water, so it is unlikely that this was their primary water source.

One other mining-related feature is apparent in this section of the cave. The level of the dirt floor has been lowered an average of 3 feet for almost the entire length of the passage. This is most likely the source of the majority of dirt that was processed by the miners. They would have had to crawl from the passageway off the Reproduction Room back to this passageway and back, toting the dirt that was to be processed.

There is one other room with saltpeter mining features. Returning to the first room, there is a passage to the left. There is a room known as the "Potato Bin Room", so named for a large rectangular wooden box (circa 1930s) that rests upon saltpeter vat remains. There are additional vats on the opposite side of the path, however these are in very poor condition.

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**Continuation Sheet**

Section 7 Page 5

Saltpeter Cave  
Carter County, Kentucky

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The author of this nomination conducted the only archaeological research to date in this cave. She conducted limited excavations within the cave, and extensive archival research about the site as her Master of Art's thesis through the University of Kentucky. This research was carried out between 1992 and 1993. The focus of the thesis was to explore the saltpeter mining operation in terms of date of operation, how saltpeter was actually processed at the site, and the level of production of the site. Her field notes and the artifact collection obtained from the cave are curated at the Webb Museum of Anthropology at the University of Kentucky, Lexington, Kentucky.

Preservation of materials in this cave is extraordinary. The cave environment is exceptionally dry, with dripping water in only a few locations. Wooden artifacts left behind over the past two hundred years are very well preserved, as they are extremely desiccated. Examples of these wooden artifacts include a large section of a water trough, a small section of a pipe, and various fragments of unknown function. The primary historical impacts to the cultural resources have come from visitors to the cave. They have removed fragments of artifacts either for souvenirs or for use as torches or as fire fuel. In all likelihood, complete tools have been taken from the cave. Foot and hand-and-knees traffic throughout the cave has caused erosion of the dirt floor. In the late 1980s into the early 1990s, unauthorized visitors to the cave caused some minor damage to modern electrical lights and left garbage behind, but did not damage the archaeological resources of the cave. The occurrences of these trespassers into the cave was greatly diminished in the mid-1990s by the construction of a gate in an entrance known to thousands of visitors, but that had been previously un gated. There remains one un gated entrance to the cave system, but far fewer people know about this entrance.

This cave is a unique historical resource, one that has local significance for its impact on early nineteenth century economy. It has state significance as a large-scale War of 1812 niter mine that was engineered to specifically adapt to the environment of this cave, and is unlike the works at Mammoth Cave or Great Saltpeter Cave, the two other large-scale niter mines of this time. Saltpeter Cave, 15Cr99, could have national significance, if it can be verified that the niter produced at this location was made into gunpowder that was fired at the Battle of New Orleans.

Archaeological research in this cave to date has been extremely limited, despite the overwhelming evidence that much more information can be gleaned from further excavations and perhaps remote sensing research. The point is, we do not fully understand the nature and extent of the archaeological materials that remain in the cave. We do know that to date preservation in this environment has been unusually superb, in spite of more than a century of commercial tourism, despite modifications to parts of the cave to develop it as part of the state park system, and despite years of unauthorized

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## National Register of Historic Places

### Continuation Sheet

Section 7 Page 6

Saltpeter Cave  
Carter County, Kentucky

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access to the cave since becoming part of the state park. It is apparent, then, that much more archaeological research is required before significant damage occurs. This research should include, but should not be limited to, limited excavation of the spoil piles, and more detailed investigation of the vats themselves. Further archival research could provide additional information about the individuals whose names are represented by the 1869 graffiti, and the gatehouse itself warrants further research.

One concern about the future of the preservation of the archaeological resources within Saltpeter Cave comes from a proposed plan to protect another fragile resource: the endangered Indiana bat. Members of a bat protection organization believe that Saltpeter Cave was once the home to thousands of Indiana bats. They believe the mining and subsequent commercialization of the cave made the cave's climate unsuitable for these bats. Indiana bats have very specific climatic requirements and the two area caves in which they now hibernate are only marginally suitable. This organization recommends that the entrance to Saltpeter Cave be modified to facilitate the movement of bats into and out of the cave. The state park employees have implemented a five-year experiment to close the cave to tourism and to most visitors (scientific or otherwise) during the bats' hibernation period (for management purposes, this period extends from Labor Day to Memorial Day). The objective is to determine whether the bats will utilize Saltpeter Cave as their primary hibernaculum when they are not disturbed by the presence of people and the added heat from lights, bodies, etc.

Renovation of the entrance would change the air flow and possibly the humidity levels of the cave. This would most dramatically affect the First Room of the cave, where the majority of saltpeter-related artifacts and features are located. Additionally, no archaeological investigations have occurred outside the cave to see if any mining related resources remain. The proposal to make the cave more bat-friendly also suggests the removal of a large spoil pile just inside the entrance. Although no excavations have investigated the spoil piles, a surficial examination of these indicates that artifacts are eroding out of them. Therefore, it is clear that the spoil piles could yield a great deal of information about the material culture prior and during the mining episodes. These spoil piles should be a primary focus of remote sensing investigations if they are not in danger of being removed, and if they are, then detailed archaeological investigations are recommended. The introduction of large numbers of bats, and their concomitant guano, could alter the pH of the soil, raise the humidity level of the cave, and affect other, unknown changes. These changes, particularly those to the soil conditions and ambient environment, could negatively impact the preservation of the wooden and other organic remains.

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## National Register of Historic Places

### Continuation Sheet

Section 8 Page 1

Saltpeter Cave  
Carter County, Kentucky

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#### Section 8 Statement of Significance

Saltpeter Cave archaeological site is eligible under Criterion A for its association with "events that have made a significant contribution to the broad patterns of our history;" namely, its association with the development of tourism and caving in Kentucky. The site is also eligible under Criterion D for the potential to yield information pertaining to early nineteenth century niter mining operations in Kentucky. The site is significant in the areas of: archaeology—non-aboriginal, industry, military, and entertainment. The site has local significance as a long-term tourist attraction and an important early nineteenth century niter mine. The mining operation must have had a tremendous impact upon the local economy. The site is significant at the state level for its impacts on recreation and industry as one of the largest niter mines in the state during the War of 1812, and as a popular tourist destination for more than one hundred years. It could also be significant at the national level if its association with the Battle of New Orleans can be more concretely established. The site retains qualities of integrity in its location, its design, materials, feeling, and association.

#### Historical background and significance under Criterion A

Saltpeter Cave meets Criterion A for association with the events of caving and tourism. The cave has been explored on a commercial basis for at least 145 years. As this remote area became more accessible through the development of automobiles and improved road conditions, tourists and cavers alike began to flock to the Carter Caves area. Today, in one year, thousands of visitors are taken through Saltpeter Cave.

The area that is now the main body of the state park was obtained by the Commonwealth of Kentucky in 1946. Three years later, the state took over the property and began constructing buildings. Since at least the 1840s, tourists had been travelling long distances over rugged terrain in order to explore the caves and experience the natural beauty of the area. An 1856 article in The Ironton [Ohio] News describes a visit to the region by a group from southern Ohio (Pratt 1856). They explored several of the caves now in the state park, including Saltpeter Cave. Pratt describes the niter vats in the first room of the cave, noting that "several old vats or bins for leaching [nitrous soils], in the process of making saltpetre, still remain, and perfectly sound as to materials (wood) of which they are constructed (Pratt 1856)." This article places the date of the mining operation well before the Civil War. It is also important for noting the early tourism into the cave. The group hired a local youth to guide them on their adventure.

An article from The Cincinnati Commercial on March 1, 1869 describes a visit to Carter Caves by a group from Portsmouth, Ohio (Greiner 1869). Greiner notes that "for twenty

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## National Register of Historic Places

### Continuation Sheet

Section 8 Page 2

Saltpeter Cave  
Carter County, Kentucky

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years and more, the good people of Kentucky have made the caves of Carter their summer haunt.... (Greiner 1869)."

The gatehouse over the entrance to the cave was built more than fifty years ago and is a contributing resource to this nomination. Although the exact date of its construction remains unclear, the structure reflects the vernacular architectural style known as park architecture, or "parkitecture." This building reflects the trend set in the 1930s and 1940s by the National Park Service of designing buildings so that they complement and use elements of the natural setting. In this case, the walls of the gatehouse are heavy limestone blocks. The gate itself is constructed of iron bars and resembles a jail cell.

There are several phases of construction in the Carter Caves region during which the gatehouse could have been erected. In 1902 the owner of the property, Samuel B. Thomas, constructed trails through Saltpeter and X-Caves. He planned to turn the area into a large park, and to that end, he constructed several new buildings, cleared brush, and erected a fence around the property. By 1924, J.F. Lewis had purchased the property from Thomas' heirs and entered into a partnership with nine other men, forming the Carter Caves Company. This group operated a hotel in the vicinity of the caves, which may have been the destination of the water piped from Saltpeter Cave mentioned earlier.

By 1929, a new state road connecting Midland Trail (eventually to become U.S. 60) with Carter Caves was under construction (George n.d.). Combined with the interest in making the region a state park, more and more attention was turned to the area. September 7, 1929 was "Governor's Day" and more than 500 people visited the caves (George n.d.). The people of the Carter County area raised money to purchase the land for the state, and sold the property to the Commonwealth of Kentucky in 1946. In 1949, the state took the property over, constructing a kitchen and dining rooms, several cabins, a group camp, restrooms, picnic areas, service buildings, and a superintendent's house (George n.d.). The gatehouse could have been constructed during any of these phases of the park's evolution.

The significance of this building and this site under Criterion A reflects the popularity of tourism and roadside architecture in the early- to mid-twentieth century. The adoption of the personal automobile created a dispersion of culture across the landscape (Kennedy et al. 2000).

According to Kennedy, Johnson, and Macintire (2000):

State Parks, historic sites, and resort areas provided a vacation destination for Kentuckians seeking places of natural beauty and unique

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## National Register of Historic Places

### Continuation Sheet

Section 8 Page 3

Saltpeter Cave  
Carter County, Kentucky

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historic character. Most early-to-mid twentieth century vacationers took small family-oriented trips to places that could be reached by automobile in a few days. Several factors were necessary for this type of tourist trade to flourish. First, road systems had to be constructed of a strong, even surface and be navigable by map. Second, sites of interest had to exist and receive wide publicity. Third, a cheap, reliable mode of transportation had to be at one's disposal. And lastly, there must be available leisure time and funds for vacationing.

With the introduction of the mass-produced automobile in 1908 and the federal highway modernization program undertaken in 1916 and 1920, the resources were available by which average-income Kentuckians could take to the road. Their choice of vacation spot was largely influenced by word-of-mouth endorsements and publications like *In Kentucky* magazine and *Kentucky Progress Magazine*. It must be remembered, though, that vacationing was not yet possible for the workaday population (Kennedy et al. 2000).

The cave has long been visited by tourists from a broad geographical area. The earliest known written description of the cave comes from a newspaper article written in the mid-nineteenth century (Burr 1856). Travelers came from Portsmouth, Ohio to the cave area to be led by local guides through the caverns. There are two areas in the cave where this tourist group from Portsmouth left their names in charcoal. Several people left their names in the Reproduction Room, along with a date of July 19, 1869. In another passage closer to the entrance of the cave, now called the Signature Passage, two members of this group listed the names of the entire party, with the date of July 17, 1869 and "Portsmouth, Ohio" on the wall. The history of entertainment in the form of tourism in this rural area is one area of significance for this cave.

Tourists have flocked to this area and this cave for nearly a century and a half, despite its isolated and remote location. Cavers and tourists alike are drawn to the historical and speleological features of the cave. Even today, the area remains a popular tourist destination year-round.

#### Historical background and significance under Criterion D

Saltpeter Cave also meets Criterion D. The niter mining operation at this site was one of the largest in Kentucky during the War of 1812. More than 25 leaching vats are present in the cave, with a strong likelihood that more are buried beneath spoil piles. Extensive spoil piles reflect the high level of production at this site. Compared to Mammoth and Great Saltpeter Caves, the two other high-production niter mines in Kentucky at that time, the passages of this cave are relatively narrow, the ceilings are low, the cave itself

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Saltpeter Cave  
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relatively short. Miners had to be more ingenious in engineering the design of the operations.

Archaeological investigations have discovered subsurface features, including intact portions of the leaching vats and water troughs, and the extensive spoil piles contain mining (and possibly other, unknown) refuse that could be used to address questions about the earlier period of mining. Artifacts that have been collected by past visitors from throughout the cave have been collected in the first main room. These can be studied to address questions of tool use by the miners, food storage, water distribution systems for the mining operation, and artifact type and manufacture. The wooden artifacts might be used to derive dates for the mining operation through radiocarbon dating or dendrochronology techniques. Remote sensing projects could be used to experiment with the utilization of various techniques in this unique archaeological situation. In most applications of remote sensing devices, the device is placed against the ground surface, and measurements are taken vertically into the ground, and horizontally beneath the ground surface. Saltpeter Cave presents a unique opportunity to ascertain the utility of various remote sensing equipment. In this situation, the spoil piles extend to the ceiling, and testing could be done to determine if the same remote sensing devices can be used when placed against a dirt "wall" and attempts to probe horizontally into the pile. Other research questions could focus on the transportation of water within the mine/cave, the individuals associated with the mine, and further experimentation can be done to better address questions of the potential nitrate yield from this site.

Saltpeter Cave at Carter Caves State Resort Park (15Cr99) is historically significant for the important early nineteenth century niter mining operation that was centered within the cave. Estimates place the production of this cave on a level comparable to that of Mammoth Cave and Great Saltpeter Cave, elsewhere in Kentucky (Duncan 1993). These sites were probably three of the most important niter production centers in the state during the War of 1812. The saltpeter produced at Saltpeter Cave is said to have been utilized during the Battle of New Orleans, but no definite proof (nor any definite contradiction) has been found, despite extensive archival research. Although the specific dates of operation cannot be verified, a strong case for War of 1812 operation has been made (Duncan 1993).

Between 1811 and 1815, the U.S. was at war with Great Britain. During the war, the British established blockades that prohibited the United States from importing gunpowder from Europe, as it had done for many years. Consequently, new sources of gunpowder, and its primary ingredient, saltpeter, had to be found quickly. One of the most abundant sources of saltpeter was the limestone caves of the southeastern United States. Many of

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Salt peter Cave  
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these saltpeter mines were concentrated in Kentucky, leading the state to become the most prolific producer of saltpeter during the War of 1812.

Hundreds of saltpeter mines rapidly appeared throughout Kentucky. Many are rockshelters located in eastern Kentucky, but three of the largest mines are located in caves. Mammoth Cave, in south-central Kentucky; Great Saltpeter Cave in eastern Kentucky, and Saltpeter Cave at Carter Caves State Resort Park (15Cr99) were the most productive cave mines during this time.

Salt peter, or potassium nitrate, is produced when cave earth is placed in wooden vats with water collection systems in place. Water is added, and the nitrates are dissolved from the dirt and carried into the water collection unit (usually a large trough). The liquid may or may not be filtered through the same vat of dirt, or a fresh vat, depending upon the desired purity of the final product. As a vat clogs or the soil is depleted, the exhausted dirt is dumped to the side and fresh dirt is added. The filtered fluid, known as "niter beer," is collected and combined in an iron kettle with a potash solution (ashes and water). As this liquid boils, any impurities present will bubble to the surface and can be skimmed off with ladles or spoons. Ultimately, saltpeter crystals form, and are removed and laid out to dry before being shipped to the gunpowder mills. The powder mills combine saltpeter, charcoal, and sulfur to produce gunpowder. The archaeological evidence at Saltpeter Cave includes spoil piles, vat remains, wooden troughs, and wooden water pipe fragments, among other artifacts.

It is unclear who owned and operated the mine. Extensive archival research has yielded almost no information relating to individuals associated with the saltpeter mine. The only name that can be directly linked to the mine is that of "Colonel" John Plummer. Plummer was from eastern Kentucky and served two one-year hitches with the Kentucky Volunteers of Fleming County. The first hitch was from 1812-13. The second enlistment period, 1813-1814, was served in the infantry (the title of "Colonel" was an honorary one bestowed upon John). Plummer was discharged at Fort Covington on May 11, 1814 after seriously injuring his right eye in a battle at Fort Stephenson. The Plummer family records recount the following:

From Fleming County, John and two other young men come to Carter county [Greenup County at that time] on a hunting trip-through the wilderness down Tygarts Creek to Carter Caves. Now this place was then surrounded by a village of log cabins occupied by workers who mined salt peter from the caves and converted it to gun powder. The stuff was hauled to the Ohio River by ox teams then sent down the Ohio and Miss. Rivers by flat boat-some of it, 'tis said, made its' [sic] way to be used in the fierce

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Saltpeter Cave  
Carter County, Kentucky

Battle of New Orleans. Parts of the old hoppers and vats and hand hewn pipe lines may still be seen in the Salt Petre Cave.

While there, Plummer and his party were employed by the miners to lay in a supply of meat – This they did since “deer, wild hogs, turkeys, ect [sic] were in abundance.” (V. Plummer, ca.1890:3)

Most commercial saltpeter operations in the state were in operation during the War of 1812, the Civil War, or during both wars. Small mining events occurred on a cottage-industry or individual-use level throughout Kentucky’s history. The Plummer records indicate this mine was active during the War of 1812. This is substantiated by the earliest published reference of a visit to the Carter Caves area. Reverend Burr published an article in the Portsmouth [Ohio] Tribune on September 18, 1856. This article describes the old saltpeter vats present in the cave.

It is unlikely that the cave was mined extensively, if at all, during the Civil War. Large saltpeter operations were not established during the Civil War, as Kentucky was a border state, and neither side wanted a gunpowder-related facility to fall into the enemy’s hands. During this time, small rockshelter operations were the rule rather than the exception.

Mammoth Cave is the only 1812-period saltpeter cave for which the amount of saltpeter yield per bushel of processed earth has been estimated. According to De Paepe and Hill (1981:90), Mammoth Cave produced a yield of 3-5 pounds of saltpeter per bushel of dirt. In 1812, Kentucky supplied 301,937 pounds of saltpeter to the war effort (De Paepe and Hill 1981:90). Conservative estimates at Saltpeter Cave calculated a range of 25,800 – 43,000 pounds of saltpeter that could have been derived from the 620 cubic meters of spoil dirt present in the cave. This one site, Saltpeter Cave, could have provided almost 15% of the total yield in a state that had more than 200 saltpeter caves and rockshelters (Duncan 1993).

This cave must have had a significant effect upon the local economy. The 1810 market price for crude saltpeter was 17 cents per pound. The price increased to 75 cents - \$1.00 per pound during the War. Using the more conservative value, the estimated production yield at Saltpeter Cave could have brought a total dollar amount between \$19,350 and \$32,250 in the early part of the nineteenth century. For comparative purposes, these figures can be translated into year 2000 valuation, giving a dollar range of between \$215,391.65 and \$358,986.08 (McCusker 2001). Immediately following the war, the price dropped again to 15 cents per pound and made niter mining a much less profitable industry. It is just this wartime economic advantage that compels one to place added

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Saltpeter Cave  
Carter County, Kentucky

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veracity to the oral history of the cave, placing the mining operation during the War of 1812.

This site is eligible for the National Register of Historic Places under Criterion A for its association with tourism and caving, and under Criterion D for its tremendous information potential for yielding data relevant to the War of 1812 and niter mining operations.

This poorly understood and little known saltpeter site could have been one of the three most productive sites in the state of Kentucky during the War of 1812. Each saltpeter site is unique in the details of its operation and the engineering of the process. The vat designs and the water collection system at Saltpeter Cave are unlike any other in the details of their construction, and the potential for high production output support the need for further archaeological investigation of the site, recognition of the importance of the site, and future preservation of the cultural resources of the cave.

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Salt peter Cave

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While the mining operation at Salt peter Cave cannot be precisely dated through primary data or archaeological evidence at this time, the mine's association with the War of 1812 can be established through deduction and inference.

Oral history accounts have always connected the cave to the War of 1812. Several lines of evidence were pursued in order to prove or disprove that relationship. First, the scale of mining must be considered. The majority of the mining operations at this site were at a commercial level, rather than an individual or cottage-industry level of production. The only times in Kentucky niter mining reached this level were during the War of 1812 and on a **much** more limited basis, during the Civil War.

The current assumption is that during the Civil War only rockshelters in isolated locations were mined, and not the large cave sites. This was because Kentucky was a border state, and no one wanted to risk a gunpowder facility falling into the enemy's hands. Additionally, there is nothing documented to date that exactly ties the rockshelter sites to the Civil War, so the only commercial niter mining operations in the state that have definitive associations are those that were active during the War of 1812 (i.e., Mammoth Cave, Great Salt peter Cave).

Several of the newspaper articles cited herein-- dating to before the Civil War--note the "old" niter vats in Salt peter Cave, thus establishing their presence from an earlier time. Finally, the Plummer family records, as well as other secondary sources connect Colonel John Plummer to the mine during the War of 1812 (V. Plummer n.d.).

There is no question, then, that the relatively large-scale mining in this cave occurred during the War of 1812. There is archaeological evidence in the cave that individual levels of mining occurred prior to or after the commercial enterprise, but future archaeological and archival research is required before any interpretation can be made about that endeavor.

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Saltpeter Cave  
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Saltpeter Cave  
Carter County, Kentucky

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**Verbal boundary description**

The site encompasses the entrance and entire interior of Saltpeter Cave at Carter Caves State Resort Park, Olive Hill, Kentucky.

**Verbal boundary justification**

Saltpeter-related artifacts and features can be found throughout the interior of the cave. The mining operation itself most likely included areas outside the cave, however the exterior of the cave, the hillside below the entrance, and the bottomland adjacent to Cave Branch have been excluded due to a lack of integrity, and extensive damage from renovations for State Park construction. Plummer family records and local informants have indicated there had been a number of log cabins where the present Visitor's Center building and parking lot now sit. These could have been related to the mining operation, but no documentation of them has been found and therefore these areas are also excluded from this nomination.

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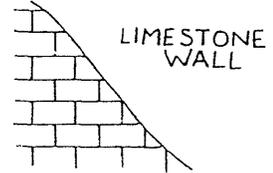
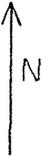
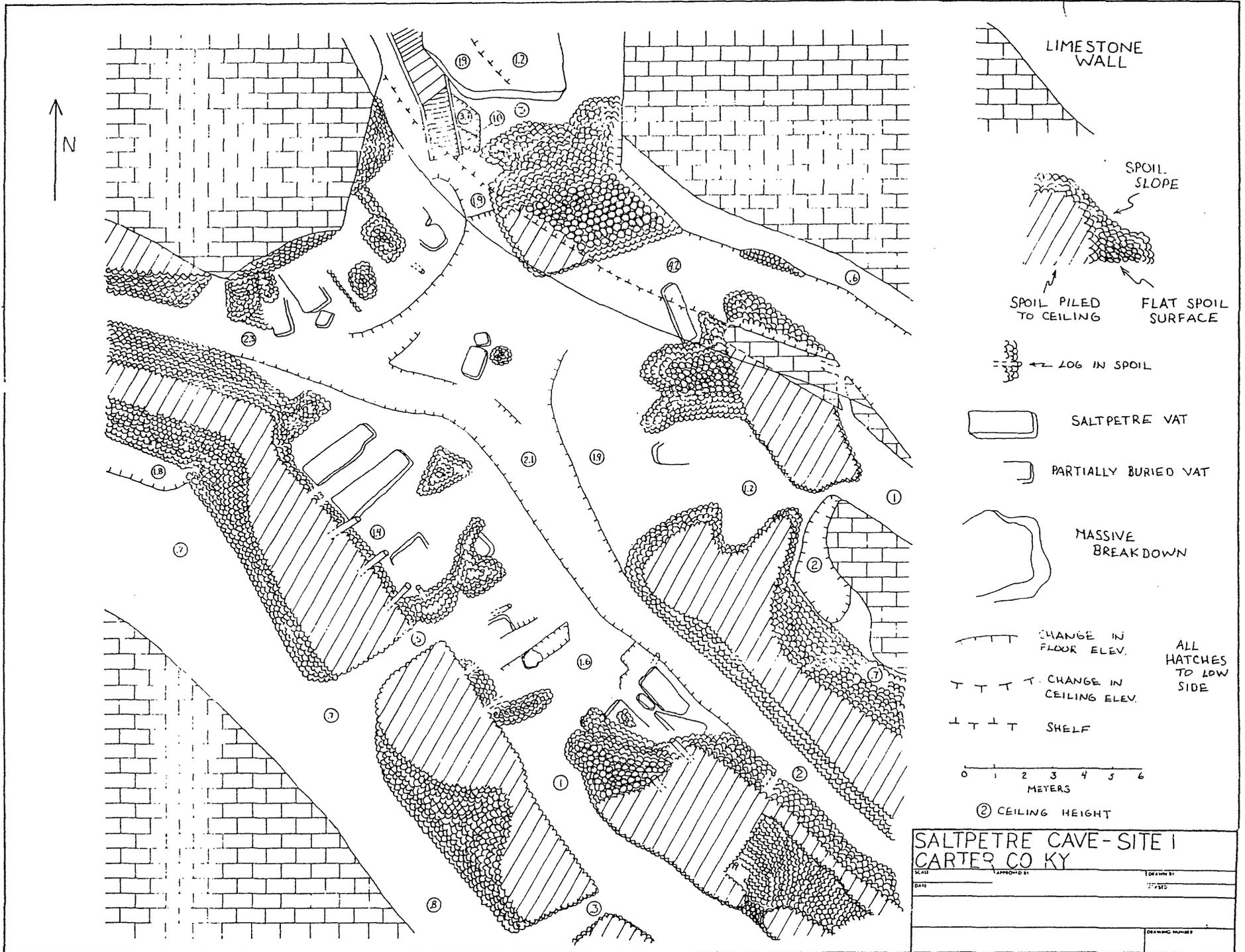
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Photographer: Susan Neumeyer

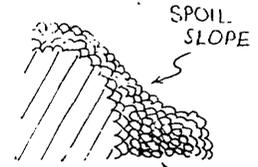
Date of Photograph: 2001

Location of Negatives: Kentucky Heritage Council, Frankfort, KY

1. Limestone block and iron bar "gatehouse" over entrance to Saltpeter Cave, shot to west
2. Wooden artifacts and niter vat casts in First Room of cave, shot to west
3. Close-up of niter vat cast showing board impressions and collapsed wooden sides, shot to south
4. Looking down passage to interior of the cave, large spoil piles on either side of the passage, shot to east
5. Close-up of potash vat cast, used to convert calcium nitrate to potassium nitrate (saltpeter), shot to north
6. Close-up of niter vat casts with circa 1930s potato bin resting on them, shot to north
7. Close-up of July 17, 1869 signatures of tourists from Portsmouth, Ohio, written in charcoal, shot to north



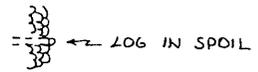
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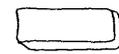
SPOIL SLOPE

SPOIL PILED TO CEILING

FLAT SPOIL SURFACE



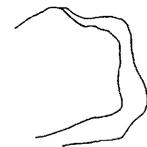
LOG IN SPOIL



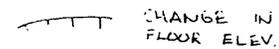
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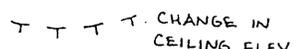
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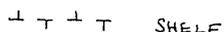
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CHANGE IN FLOOR ELEV.

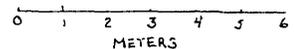


CHANGE IN CEILING ELEV.



SHELF

ALL HATCHES TO LOW SIDE

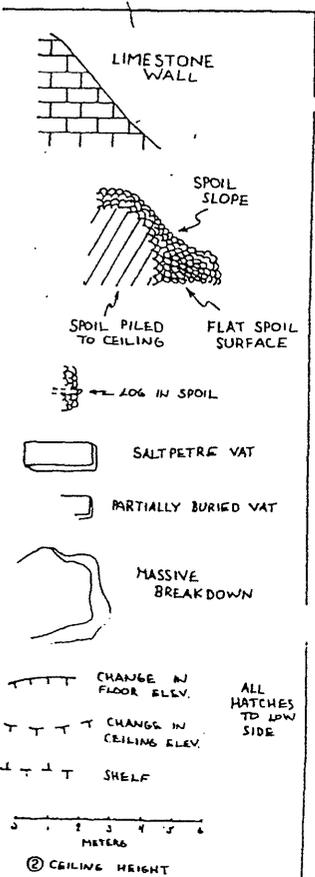
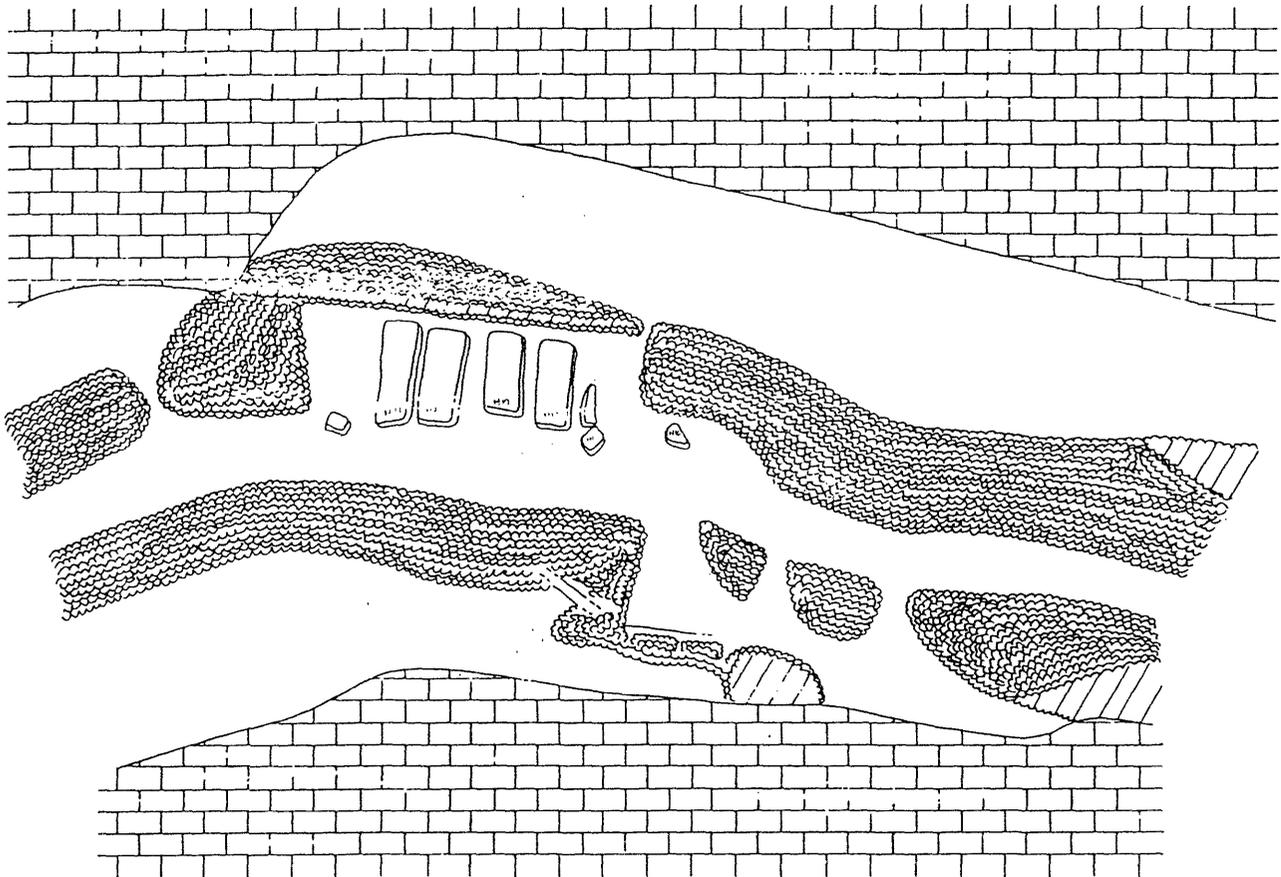
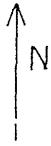


METERS

② CEILING HEIGHT

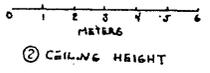
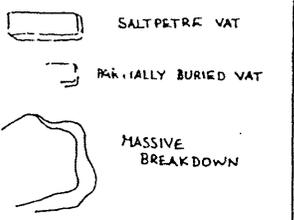
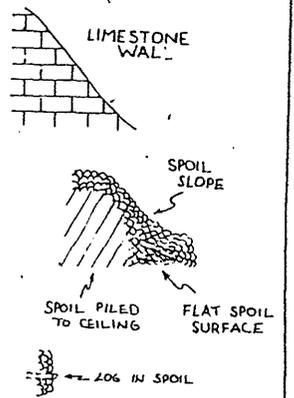
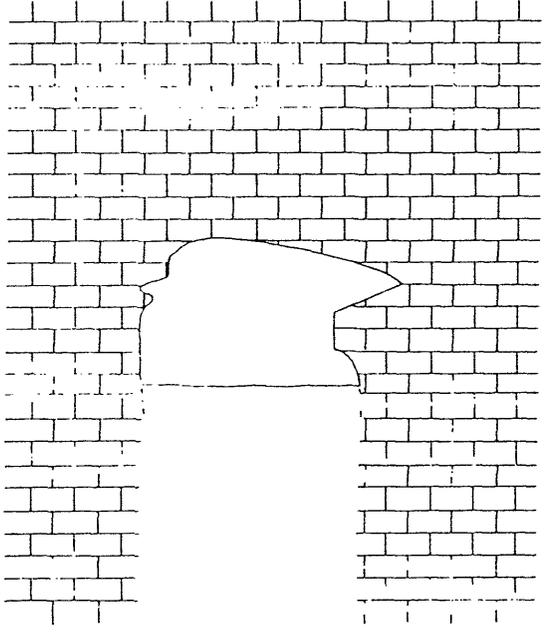
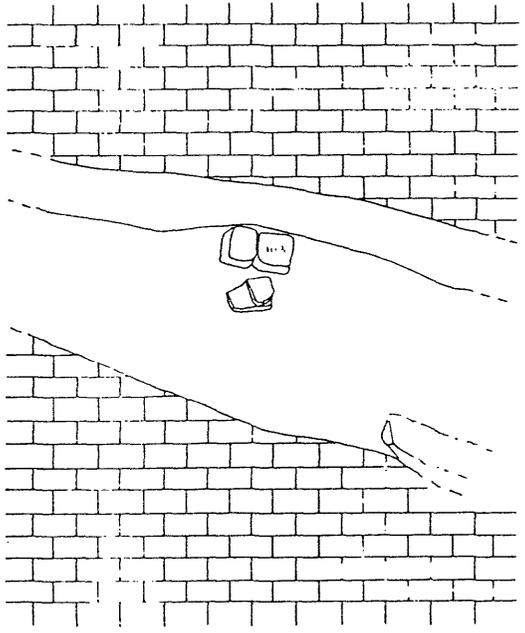
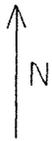
SALTPETRE CAVE - SITE 1  
CARTER CO KY

SCALE	APPROVED BY	DRAWN BY
DATE		FF/S
		DRAWING NUMBER



SALTPETRE CAVE-SITE 2  
CARTER CO KY

SCALE	APPROVED BY	DRAWN BY
DATE	REVISED	



ALL HATCHES TO LOW SIDE

SALTPETRE CAVE - SITE 3  
CARTER CO KY

SCALE	APPROVED BY	DRAWN BY
DATE		
		DRAWING NUMBER

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**SUPPLEMENTARY LISTING RECORD**

NRIS Reference Number: 01000743

Date Listed: 07/24/01

Salt peter Cave  
Property Name

Carter  
County

KY  
State

N/A  
Multiple Name

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This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

*Erika Martin Seibert*  
for \_\_\_\_\_  
Signature of the Keeper

7/24/01  
Date of Action

=====  
**Amended Items in Nomination:**

\*Contributing and Non-Contributing Resources is amended to read: 1 contributing site and 1 non-contributing structure.

\*The Period of Significance is amended to read: circa 1812-1950.

\*This amendment was discussed with the National Register Coordinator, Marty Perry on 7/24/01.

**DISTRIBUTION:**

- National Register property file
- Nominating Authority (without nomination attachment)