

# THE HISTORY OF SALTPETRE MINING IN MAMMOTH CAVE, KENTUCKY\*

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## Part II OWNERSHIP AND DISCOVERY

Sir Walter Raleigh, to whom Elizabeth I of England had given Letters Patent dated March 25, 1584, which were intended to cover any discoveries made in the New World, and "for turning their Discoveries to their own Advantage" left England during the early part of April 1584, and headed toward the recently discovered continent.<sup>1</sup>

After Raleigh's return to England, Queen Elizabeth was so well pleased with his report on the New World, ". . . that as the greatest Mark of Honour she could do the Discovery, she call'd the Country by the Name of *Virginia*: as well, for that it was first discover'd in her Reign, as Virgin Queen: as that it did still seem to retain the Virgin Purity and Plenty of the first Creation, and the People their Primitive Innocence."<sup>2</sup>

Beverly also states, "*Virginia*, . . . was a Name at first given, to all the Northern Part of the Continent of America; and when the Original Grant was made, both to the First and Second Colonies, that is, to those of *Virginia*, and *New-England*, they were both granted under the Name of *Virginia*."<sup>3</sup>

Probably the first reduction in the original extent of *Virginia* occurred when James I of England, on May 23, 1609, granted a second charter to the Colony.<sup>4</sup> Tazewell describes the new boundaries in the following manner: "On the North, the Parallel of 40° [near Philadelphia]; on the South, the parallel of 34° [near Wilmington, North Carolina]; on the East, the *Atlantic* Ocean, between these parallels; and on the West, the *Pacific* Ocean, between the same Parallels."<sup>5</sup>

By 1753 the boundaries of *Virginia* which were established under the 1609 Charter, according to Goodwin, had been reduced by grants to Maryland, the Carolinas, and Pennsylvania, but ". . . still encompassed what is now the western part of *Pennsylvania*, and the Territory now represented by the states of *West Virginia*, *Kentucky*, *Ohio*, *Indiana*, *Illinois*, *Michigan*, and *Wisconsin*, and *Williamsburg* was the Capital of this vast Dominion."<sup>6</sup> This 1753 area was still further

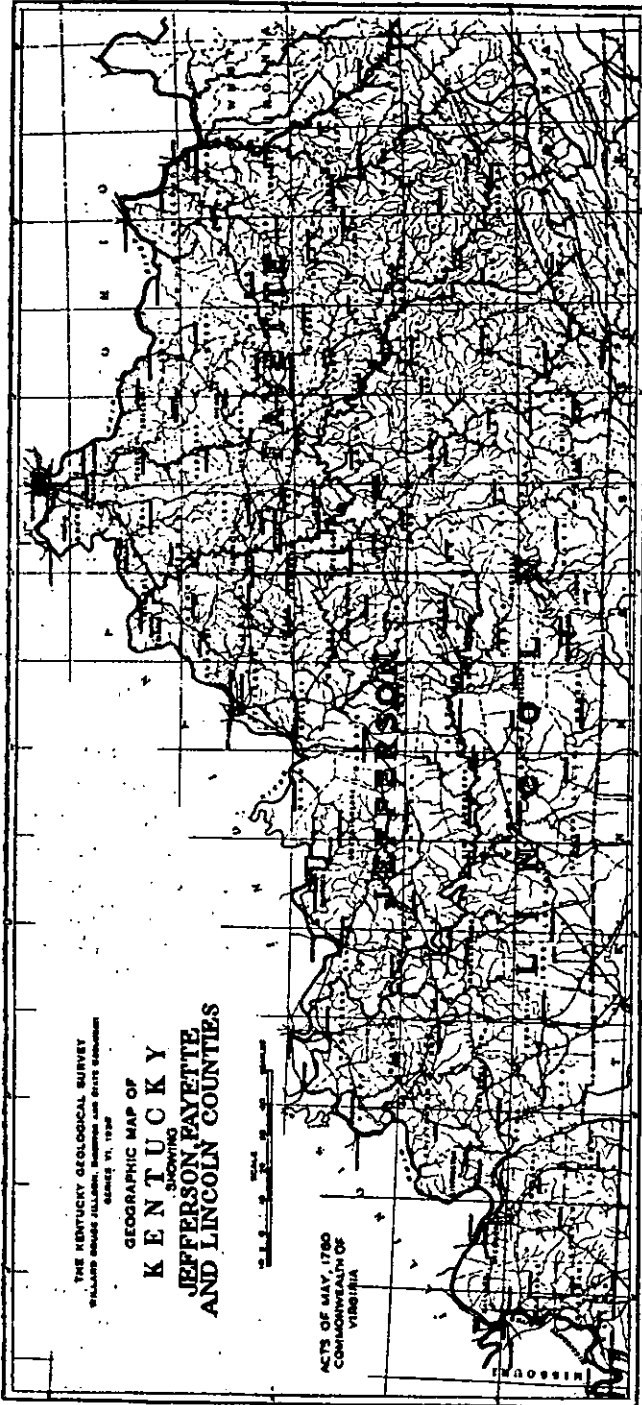
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reduced by a treaty between France and England, signed in Paris on February 10, 1763, and which established the ". . . middle of the Mississippi [River]" as the west boundary of Virginia.<sup>7</sup> Under the Constitution which Virginia adopted on June 28, 1776, she relinquished all claims to those areas within the present limits of Maryland, Pennsylvania, and the Carolinas. In 1784, Virginia ceded that portion of her territory north of the Ohio River to the United States.<sup>8</sup> Thus the original Virginia was reduced to the present states of Virginia, West Virginia, and Kentucky.

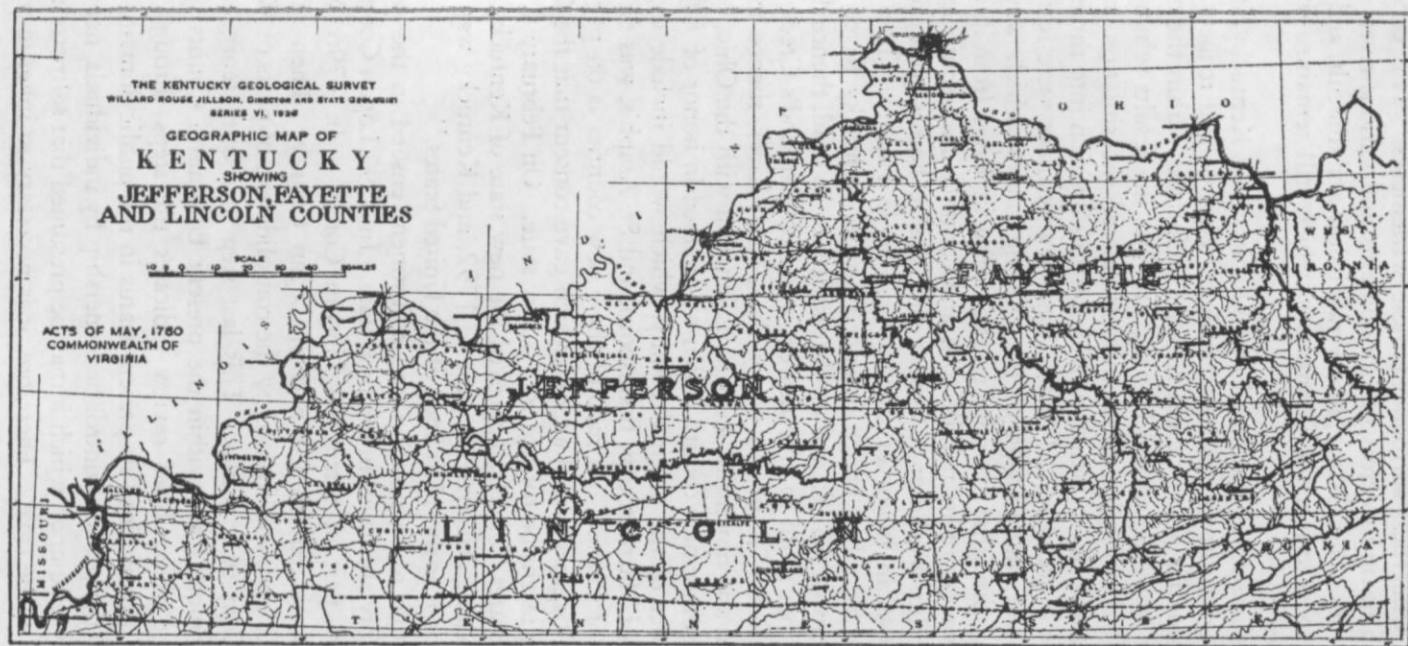
During the same period of time that the boundary lines of Virginia were in a state of flux, considerable reorganization of counties within the "Dominion" was in progress. Augusta County which was formed in 1738 originally included all of present-day Kentucky. In 1769, Botetourt County was carved from part of Augusta County, and in 1772 Fincastle County was divided from Botetourt County. The Kentucky territory was embraced in turn within the boundaries of Botetourt and Fincastle counties.

Shortly before 1776 the inhabitants of that portion of Fincastle County west of the Cumberland Mountains presented a number of petitions to the President and Gentlemen of the Convention at Williamsburg. One of these petitions carried the names of over 200 signers and, "Humbly sheweth That the great extent of our County and the difficulty of attending Courts induced your petitioners some time ago to solicit the General Assembly for a division of the said County: But the subsisting disorder in the State then commencing prevented an Answe[r] [Whereby your Pe]titioners have b[een] ob[liged to] labour under the hardship of attending [many of them near one Hundred and fifty Miles] upon all publick business, which greivences induces your petitioners now to address your Honourable House for relief eith[er] by a Division, if practicable, or a separate district, so that we may attend Committees Jc. without so much Expense and trouble as at present we are exposed to."<sup>9</sup> The consideration of this petition by the Convention of Virginia resulted, in 1776, in the division of Fincastle County into Montgomery, Washington, and Kentucky counties, with the abolishment of the parent county.

Even after Kentucky County was established as a separate jurisdiction, problems in the administration of the civil and military affairs continued to exist and, in fact, grew to be more and more complicated. This was due to not only the growth in population but also to the increased number of widely separated regions to which people had migrated. Settlements were developed to the north of the Kentucky River, near the Falls of the Ohio and the Salt Licks, also in the vicinity of Lexington, and in the regions south of the Kentucky River. Wide



RECENT MAP OF KENTUCKY SHOWING THREE ORIGINAL COUNTIES: 1780



RECENT MAP OF KENTUCKY SHOWING THREE ORIGINAL COUNTIES: 1780

stretches of wilderness surrounded these settlements. This condition, coupled with having to cross high mountains and various rivers which were oftentimes in flood stage, made travel slow and difficult, and sometimes dangerous, to reach Williamsburg, which still remained the seat of government.

These circumstances prompted the inhabitants of Kentucky, in May 1780, to petition the General Assembly of Virginia and request that a number of smaller jurisdictional regions be formed within the county. This request was granted and Hening<sup>10</sup> reports the results substantially as follows. The Virginia Assembly considered the situation in Kentucky and passed an Act which provided for its division into three counties, effective November 1, 1780. These new counties were formed as follows: All of that portion of the existing county which would be separated by a line that extended up the Kentucky River from its mouth to the headwaters of its middle fork and continue in a southeasterly direction to the Washington County line was to be a separate county named *Fayette*, in honor of the Marquis de le Fayette. The region encompassed by a line which extended up the Kentucky River to the mouth of Benson's Creek, and up that stream to its head, thence directly south from that point to "the nearest water of Hamond's Creek," then down that stream "to its junction with . . . Salt River, thence south to Green River, and down this river to its junction with the Ohio," was to constitute another new county which was named in honor of *Jefferson*. The remainder of the original county, which would include the early settlements of Harrodsburg, Boonsboro, and St. Asaph's, was to be the new county of *Lincoln*. A map of these new counties is on page 129.

In 1789 Virginia passed an Act which gave consent that the County of Kentucky might be formed into a new state. On February 4, 1791, the United States Congress approved the new state of Kentucky. This approval became effective on June 1, 1792, and Kentucky was admitted to the union as the 15th State of the United States.<sup>11</sup>

Considerable reorganization and adjustment ensued in the arrangement of county areas within the new state. In 1792 Logan County was formed from part of territorial Lincoln County. In 1796 Warren County was created from a part of Logan County. Then in 1825 Edmonson County was formed by the consolidation of parts of Warren, Hart, and Grayson counties. This last step in county reorganization placed Mammoth Cave within the present Edmonson County.

While the above brief review indicates the steps through which Mammoth Cave attained its present status in the public domain, it does not consider the private control or ownership by individuals, nor does it establish any date upon which it may be presumed that saltpetre mining was started in the cave. Therefore, it is necessary to investigate other

records and reports and to draw certain conclusions from what these reveal.

The early settlers in the mountainous limestone areas of this country were well aware of the presence of saltpetre in many caves. Therefore, it is logical to assume that all such potential warehouses of this vital chemical were investigated with as little delay as possible after the arrival of the emigrants. Among these migrants were men who knew the saltpetre caves east of the Cumberlands. Also, many of them had sufficient knowledge of chemical processes to be saltpetre hunters and knew how to perform the recovery and purification operations.

Due to a number of factors it is not possible to determine the exact date when Mammoth Cave was first discovered by white men. Most of the early explorers and settlers were so occupied with the duties required to maintain life and personal safety they had little time or interest in diaries or journals of their day-to-day activities. Consequently, personal records of the early history of this area are almost non-existent. As a result, there has been much writing of speculative and even contradictory nature. In some instances the same writers appear to take the same set of circumstances and tell different stories. In other instances, other writers seem to do no more than repeat rumors, gossip, or tales which they have heard. Such conditions make it difficult to separate fact from fiction and folklore from authentic and documented history.

Even though one of James Knox's *Long Hunters* (1749-1751) is reported to have said that he "knew the caves along the Green River," no authentic record is presently known which will support any contention that these hunters either made gunpowder from saltpetre procured from Mammoth Cave, or that any of them had any financial interest in the property on which the cave is located.

It has been reported that during the 1850's the cave guides told visitors that Mammoth Cave was first entered in 1802. Perhaps this statement stems from a remark in a letter which Benjamin Silliman, Jr., Professor of Physics and Chemistry at Yale, wrote from Louisville, on November 5, 1850, to Arnold Guyot, Professor of Physical Geography in Boston.<sup>12</sup>

However, a careful study of Silliman's letter fails to disclose clear support for this allegation. It must be remembered that Silliman did not visit the cave until 1850. Consequently, he had no first-hand knowledge of the date of actual discovery. The statement to which reference has been made is, "There is no evidence that the cave rats ever visit the upper air, and there was no one who could tell me whether they were or were not found there by persons who first entered the place in 1802." This statement clearly indicates that neither Silliman

nor any other person observed the granaries or store houses of the cave rat (probably *Naotoma*) or he would not have offered his comment relative to the apparent lack of outside activities of these animals. Those who have knowledge of cave animals know that the pack rat collects great quantities of hemlock twigs, poke berries, acorns, and other food stuffs for winter use and therefore must leave the cave to garner food stuffs. Silliman merely states that, while on his 1850 trip, he had no contact with any person who had entered or visited the cave in 1802, or had noted the presence of the cave rat. Furthermore, it must be remembered that this letter was written to a Physical Geographer, whose primary interest was surface configuration and its effect on water flow. Outside of some remarks relative to these factors Silliman's letter is very general in nature.

It also appears that this 1802 date was used by the cave guides until Wm. C. Forwood's book appeared in 1870. In this he quoted from a letter attributed to Franklin Gorin, owner of the cave during 1838, in which it is stated, "It [Mammoth Cave] was discovered in 1809 by a man named Houchins, by running a bear into it."<sup>13</sup>

Bayard Taylor states in his account of a visit to Mammoth Cave, published in 1864, that he saw "... the remains of the saltpetre works which were carried on here from 1808 to 1814."<sup>14</sup> Of course Taylor obviously repeats only what he had been told since he could not have had any first-hand knowledge of the dates of operation.

In his 1882 book Hovey<sup>15</sup> stated, "I am led, therefore, to set aside the statement made by Bayard Taylor and others — I know not on what authority — that this cavern was first entered in 1802, and to accept the commonly received tradition that it was discovered by a hunter named Hutchins, in 1809, while pursuing a wounded bear." Why Hovey attributed the 1802 date to Taylor is not clear. Silliman was the one who mentions the 1802 date.

Later in his 1909 book Hovey<sup>16</sup> stated, "According to an authentic article in the *Louisville Courier-Journal* for September 29, 1901, the managers of Mammoth Cave, having occasion to examine the records at Bowling Green, found that cave designated as a corner of a section of land in 1797: which antedates by some years the threadbare legend of Houchins and the wounded bear." An interesting sidelight of this report is that there is no mention of the name of any individual who might have been involved in the ownership of the cave property.

There are accounts, however, in which it seems one might place some degree of confidence. For example, William G. Blane<sup>16</sup> who visited the cave in 1822-23 stated that, "[Archibald] Miller lived at this spot for fifteen years." This report seems to imply that saltpetre mining was started in 1808. It is known that Miller was either agent or

supervisor of the saltpetre recovery operation during the 1810 to 1814 period. It has been conjectured that Miller mined saltpetre here before the 1808 date which Taylor reported. Even the acceptance of the 1808 date does not preclude individual or community mining activities previous to that date.

It now appears that even though Hovey had previously discredited the 1802 date, had discarded Blane's implied 1808 date, and accepted the "threadbare legend" of the 1809 wounded bear story, his interim investigations led him to admit the newspaper account of an unidentified reporter as support for the 1797 date of discovery.

The 1797 date still remains the earliest known specific reference to the existence and location of Mammoth Cave. Even though some questions have been raised relative to the truth of this date, there is a considerable amount of historical and legal evidence which lends tacit support to this date.

Warren County, which encompassed Mammoth Cave, was established in 1796. Almost simultaneously the Moore brothers, Robert and George, settled in the area where the present city of Bowling Green is located. In 1797 the Moore brothers provided the land on which the court house was built. The platting of the town of Bowling Green, just thirty miles from Mammoth Cave, was started on April 17, 1797, but it was not incorporated until February 12, 1810. However, it seems entirely possible that land records were present in the county archives in 1797.

The earliest specific reference to the involvement of an individual in the ownership of this cave property seems to be indicated in Land Certificate No. 2428, dated September 14, 1798, and reported by early writers to be in Survey Packet No. 2599, in the Kentucky Land Office in Frankfort.<sup>f</sup> This certificate, apparently, was issued by the Land Commissioners Richard Young, Robert Mosely, and John Brown of Warren County, to Valentine Simmons and covers "200 acres of second-rate land in Warren County" and included "two petre caves." One report is that the Warren County Survey Book, 1796-1815, page 210, in Bowling Green, dated August 18, 1799, has an entry for "200 acres of second-rate land on Green River in Warren County, Kentucky, the land lying on Green River, beginning on a sycamore tree on the bank of the River, thence running southward including the improvements.<sup>g</sup> A second report, from Surveyors Book A for the same 1796-1815 period, records on page 268, Survey No. 2599, this same property. This survey was made by Samuel Goode, Deputy under Elijah Covington, Surveyor, dated September 3, 1799, and filed in the Warren County Clerk's office. Each record shows that the entry was in the name of Valentine Simmons, and gives the metes and bounds of the same 200 acre tract

and concludes with the words, "to the beginning including two salt-petre caves."<sup>17</sup> Another report states that this survey No. 2599 was filed in the Kentucky Land Office, in Frankfort. This same Land Office reports the existence of a patent to Valentine Simmons.<sup>h</sup> On the basis of these records there seems to be no question but that Valentine Simmons was the first claimant of record to this Mammoth Cave property.

From the legal records, which are readily confirmed, and from the fact that during the last quarter of the 1700's the whole Green River valley was overrun by hunters, adventurers, travelers, and others who sought new homes and places to live, it is easy to conclude that Mammoth Cave was a well known spot before the start of the 1800's.

John B. Rodes, in an address before a meeting of the Kentucky Bar Association, on April 5, 1929, made some pertinent remarks on this subject.<sup>17</sup>

It is a reasonable inference that Simmons entered a survey of this land because of the two caves located thereon and in view of the fact that they were known to contain large deposits of nitrous earth. While January 31, 1812, is the first time the name Mammoth Cave appears of record, yet it is easy to assume that the name began to be applied to this great cavern as it became known in the last decade of the 18th century.

The delay between the time that the Survey was filed and the issuance of the Patent to the cave property may have been due to Simmons' failure to complete the payment of the purchase price, or he may have neglected to file his request for the patent. Be that as it may, the records clearly show that on January 31, 1812, Charles Scott, Governor of Kentucky, granted a patent to Valentine Simmons (and his wife) for this same 200 acres described in the 1799 survey. This patent defined the limits of the property and closed with the words, ". . . including two saltpetre caves, the one called *Dixon's* and the other the *Mammoth Cave*."

This appears to be the first time that the name *Mammoth*, which had been used to indicate the tremendous size and extent of the cave rather than to identify it with any animal, was used in the legal identification of the big cave. This cave and another closely adjacent had been generally known as the "two petre caves," or "the two saltpetre caves."

Less than six months after his patent was issued Simmons sold the cave property to John Flatt. While very little of consequence is known of these two men, there is no doubt but that they knew of the presence of saltpetre in the cave. It has been established that the cave was in production during at least part of the time that Simmons was the owner. Therefore, it seems reasonable to assume that Simmons and Flatt might well have been partners in the pioneer production of saltpetre from this cave.

For many months, Great Britain and the United States had been hav-

ing serious misunderstandings, which had been aggravated by Embargo and Non-Intercourse Acts. By the first part of 1812 relations had worsened to the point that war appeared inevitable. The anticipated increase in demand for saltpetre, should war ensue, probably caused Charles Wilkins, who had been a dealer in this commodity for many years, and about whom more will be told later, to investigate the potential production at Mammoth Cave. Kentucky had been for some years a heavy producer of saltpetre, and it was to be expected that production would increase.<sup>i</sup>

War with Great Britain was declared in June 1812. As a result the demand for saltpetre grew beyond the previous production from all parts of the nation. The market price on saltpetre increased from approximately 17c per pound in 1810 to as much as 75c to \$1.00 per pound by 1813. In view of these conditions it is difficult to understand why Simmons decided to sell the cave just at the time it would be possible to operate a profitable business. The circumstances which caused him to sell at this particular time are conjectural. He may have been in ill-health or so old he did not think he could perform the necessary additional work and planning which increased production would demand. He may not have had the necessary finances for an expansion program. He may have thought his previous earnings from the cave were sufficient, or he may have considered that he would take a small profit and let someone else assume the responsibility. He could even have been under pressure to sell. The fact that saltpetre mining activities were in progress during at least part of the time while Simmons was legal owner of the property only adds to the mystery.

Regardless of their reasons, when Valentine Simmons and his wife sold this land, which included "two saltpetre caves," on July 9, 1812, to John Flatt for \$116.67, they triggered a series of sales the accounts of which read like a Florida land-boom story.<sup>j</sup> John B. Rodes, in his article *A Short Legal History of Mammoth Cave*, presents a very concise summary of the various deals which involved this property.<sup>k</sup>

On July 9, 1812, Valentine Simmons and his wife sold this land including the two caves, to John Flatt, of Barren County, Kentucky, for \$116.67. On the same day Flatt sold it for \$400.00 cash to George, Leonard, and John McLean. Again, on the same day the McLeans sold 156 acres to Fleming Gatewood and Charles Wilkins for \$3000.00 cash. The war was on and men evidently were eagerly seeking possession of the valuable deposits of saltpetre in the cave. On August 25, 1812, Gatewood sold his half interest in the 156 acres mentioned, which embraced Mammoth Cave, to Hyman Gratz for \$10,000.00 cash. This deed recites, "including the saltpetre cave known by the name of Flatt's, now Mammoth Cave." On April 20, 1813, in consideration of \$400.00 cash, Hyman Gratz purchased the remaining 40 acres of the 200 acre survey, which embraced Dixon's Cave.

The entire cave property was now under the control of Charles Wilkins and Hyman Gratz. These men were the biggest promoters of the saltpetre mining operation ever to operate at this cave.

With the close of the War of 1812 when the demand for and production of saltpetre dropped to an extremely low level, the value of the cave dropped accordingly. After the death of Charles Wilkins, the remaining partner Hyman Gratz, on June 28, 1828, bought from the Wilkins heirs the other half-interest in the cave property for \$200.00 cash. Gratz retained ownership for ten years and then in 1838 sold it to Franklin Gorin of Glasgow, Kentucky.

Since the primary concern of the present study is to survey the saltpetre production activities, particularly those of Wilkins and Gratz, at Mammoth Cave, no discussion of the development of the cave as a tourist attraction will be presented. These aspects are well and adequately covered elsewhere.

### Part III

#### SALTPETRE

#### WHAT IT IS AND HOW FORMED

*Saltpetre* is a term usually applied to certain nitrate minerals which occur in a variety of places in nature. It is found in the soils of some countries in the Far East; in some alkali beds in the arid western parts of this country; in some land-locked arid valleys which serve as accumulation centers or catch basins; in the fibers of certain plants; in the soil under the floors of old houses and in tobacco barns; in the earth floors of buildings in which animals have been sheltered; as an efflorescence on the walls of stone houses; and, in a number of limestone caves. While there are about seven such nitrate minerals known, the present discussion will be limited to the one called nitro-calcite, which is known as cave or wall saltpetre.

It is found in the *caput mortem*, or those portions of the limestone layers which were not dissolved by flowing water when the cave was formed, and in the generally friable clay which had been deposited in the cave by inflowing surface water. It occurs only in those caves which contain strongly alkaline cave earth; have a generally year-around temperature range of 52° to 57° F.; have a considerable amount of free air circulation; with no rain or flood water that can reach, and no running water or ceiling drip near or on the cave earth beds; and, a humidity range of approximately 10% to 30%. It appears that these rather restricted ambient conditions are necessary to allow the non-symbiotic, nitrogen-fixing bacteria which are present to function and produce oxides of atmospheric nitrogen. These oxides, in turn will combine with

moisture to form either a nitrous or a nitric acid. The acid thus formed will react with the limestone rocks in the cave earth and produce the nitrate of calcium, or cave saltpetre.

For many centuries, the manner, means, or processes by which saltpetre is deposited in caves has been a subject of much discussion and even considerable controversy. Some of the world's authorities in physics, chemistry, geology, and bacteriology have made real contributions to our knowledge of this phenomenon. However, the literature is replete with misconceptions and in a few instances apparently almost total ignorance of the ambient cave conditions necessary for the deposition and accumulation of saltpetre.

There must be a good reason for the saltpetre miners to return leached petre dirt to the cave and then in three to five years recover additional saltpetre from this earth. Likewise, there must be some explanation of why deposits of organic matter contain substantially no saltpetre.

In an attempt to provide at least partial answers to these questions the present author, several years past, presented a paper at a meeting of the American Association for the Advancement of Science, in which it was suggested that saltpetre was deposited in a cave as a result of bacterial action.

Due to the complexity of the explanation the suggested theory will be only briefly stated. Non-symbiotic, nitrogen-fixing bacteria, i.e., those which do not need a host plant such as a legume to survive and function, obtain their energy from atmospheric carbon dioxide, and with the always present moisture and limestone convert atmospheric nitrogen into calcium nitrate, which is deposited in their vicinity. Since this appears to be a continuous and cumulative process such would account for the possibility of the recovery of additional saltpetre from the second and subsequent leachings. These bacteria apparently will not function in the presence of even a trace of ammonia. Therefore, it seems clear why substantially no nitrates are found in deposits of organic remains.

Since the present discussion is restricted to cave saltpetre, the much different problems and procedures involved in artificial nitrate beds will not be considered at the present time.

#### HOW LOCATED AND IDENTIFIED

After the saltpetre hunters had located a promising cave the question arose, "How would these hunters know whether or not saltpetre was present in the cave?" Several steps were followed in this determination.

1. Inspection of the ambient of the cave to note whether or not the physical conditions, as described above, conducive to the produc-

tion, accumulation, and preservation of the saltpetre were present.

2. Inspect small partly buried rocks in the cave earth, to see whether or not small, whitish, needle-like crystals were present.
3. Taste any crystals found. If they have a salty-bitter taste and feel cool to the tongue they may be saltpetre. However, they could be Epsom Salts and thus the taste test is not conclusive.
4. Scratch, stir, or otherwise mark the surface of the cave earth deposit. If upon further inspection two to five days later the surface is again smooth, the presence of saltpetre is indicated.
5. Collect a few pounds of the likely cave earth and process it in accordance with the accepted physical-chemical procedures, and collect any crystals which are present.
6. Check such crystals by taste and appearance to determine whether they are sea (common) salt, Epsom Salts, or saltpetre.
7. Apply the flame test by throwing a few crystals on glowing coals. If the crystals sparkle and promote fire it can be concluded that the material is saltpetre. Or,
8. Soak some pieces of blotting-paper in a saturated solution of the recovered crystals and allow the paper to dry. If the dried paper burns with a clear, fast glow the material has passed the second flame test.
9. A final confirmatory test was made by preparing a gunpowder mix and test-firing it in a gun.

*(To be continued.)*

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(Exhibit "2" of the Court Records is a copy of a *Bibliography of the Mammoth Cave of Kentucky*. This was prepared by Willard Rouse Jillson, State Geologist of Kentucky.)

## NOTES

f. Information relative the location of this Survey Packet No. 2599 was conveyed to me in personal correspondence from two separate sources, and is also so recorded by Jillson. However, the Kentucky Land Office at Frankfort reported that "such a packet was not found in the records." There is a possibility that this information may be in the archives of Warren County.

g. These improvements could well have been saltpetre boiling furnace installations and housings for personnel and animals used in a saltpetre recovery operation.

h. The following note was received in correspondence from the Secretary of State of Kentucky: "We have located the patent to Valentine Simmons for 200 acres in Warren County on the waters of Green River. (It is) located in S.G.R. Book 11, page 47."

i. The 1810 Census Reports show that Warren County, Kentucky produced 22,850 pounds of saltpetre for the period covered by the report. The total production from the caves of Kentucky, for the same period, was reported to be 202,499 pounds.

j. Mr. M. J. Hobards has presented an interesting popularized review of the various deals in the sale of the Mammoth Cave property, under the title *Once upon a time — Mammoth Cave sold for \$116.67*. This was published in the Louisville & Nashville Rail Magazine, Vol. 31, pp. 6-9, 19.

k. An interesting sidelight on Gatewood is found in the map of Mammoth Cave drawn by Edmund F. Lee, in 1835, which shows Mr. Gatewood's house in the general vicinity of the first leaching hopper location.

Questions relative the identification of the Mr. Gatewood who presumably used this house, have been raised by certain students of the history of Mammoth Cave. Some think this was not the same Gatewood who was co-owner of the cave property with Charles Wilkins. Others seem to think that it was not the same Gatewood who is reported to have been superintendent of the cave saltpetre recovery operations for Wilkins and Gratz.

As an illustration of the trouble, time, energy, and expense which were sometimes involved in the investigation and collection of material for this particular study as well as the frustrations which sometimes follow, the following is presented.

Among the various early owners of Mammoth Cave were the McLean brothers, George, Leonard, and John. I had received a report from some source that one of the McLean brothers had kept a diary during the time he was at the cave. I was fortunate in being able to learn the address of Donald D. McLean, a descendant of one of the brothers who lived in San Jose, California. I asked a cousin of mine who lived in that city to contact him. His report was in effect that, "It was his great grandfather who was one of the original McLean brothers." He knew nothing of a diary but suggested that an older brother, Walter B. McLean, who lived in Coulterville, Mariposa County, California, "might possibly know something."

A letter to Mr. Walter B. McLean brought an interesting response both disappointing and encouraging. Disappointing, in that he had no knowledge of such a diary; encouraging in that he sent the name and address of an Aunt Mattie McLean Galbraith of Lineville, Missouri. Mr. Walter also stated that his Aunt had made a considerable attempt to learn about the family. She "went to the cave area and the surrounding territory trying to run down facts and I know she was rather disappointed." He also stated, "She had two sons who I never met. One's name was Claude and I believe a doctor in Lineville (Iowa). I cannot remember the name of the other."

A check of the directory of physicians and surgeons revealed that there was a Dr. Lloyd Bertell Calbreath (which later proved an incorrect spelling. It should have been Calbreath) at Humeston, Iowa. A letter directed to Dr. Lloyd brought the information that a cousin, Dr. Claude Calbreath, had been dead for a number of years. However, he had a brother, Dr. Earl Calbreath, who lived and practiced in Hastings, Nebraska.

A letter directed to Dr. Earl brought only the following information: "My Great Grand Father George McLean came from Kentucky but I have none of the old papers for which I regret very much."

Thus ended that quest. There seems at the present moment no hopes of being able to locate the *McLean Diary*, if it ever existed. However, someone who might read this account may have some additional suggestion. (We hope.)