

# **Radiocarbon (C-14), Optically Stimulated Luminescence (OSL), and Archaeological Dated Native American (Indigenous) Stone Structures in Northeastern United States**

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**Compiled by**

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## **Acknowledgements**

Special thanks to Curtiss Hoffman, Ph.D., Professor of Anthropology, Bridgewater State University (retired) for sharing his list of dated structures from his book *Stone Prayers*.

## **ABBREVIATIONS**

- B.P. Years before present, with present usually defined as 1950 AD.
- C.E. Common Era (used as an alternative to “A.D.”)
- B.C.E. Before Common Era (used as an alternative to “B.C.”)
- C-14 Radiocarbon analysis
- OSL Optically Stimulated Luminescence

## **INTRODUCTION**

This is a compilation of all known Native American stone structures (both utilitarian and ceremonial) in the northeastern United States that have been dated through radiocarbon, optically stimulated luminescence, or other archaeological dating method. The findings are summarized in the chronology chart. Each dated structure was evaluated and a reliability score (good, fair, or poor) was assigned to it. A more detail synopsis of the context of the date can be found in the description for each site. This report demonstrates beyond a reasonable doubt that Native American peoples in the northeast had the skills to build a range of different types of stone structures.

## **ETHICAL STATEMENT**

This report includes evidence and dates from archaeological excavations which would be considered unethical and/or illegal by current standards and laws. They were included because the information demonstrates indigenous people in northeastern U.S. have a long history of constructing ceremonial features using stones. It is hoped that this evidence will serve to protect and preserve other sacred and culturally sensitive indigenous places and stone features from destruction.

## CHRONOLOGY OF DATED STRUCTURES

### Reliability of Date Score

Good – Review of the excavation indicates the date can be associated with the structure

Fair – The reliability of the date is open to debate

Poor – There are serious doubts about the reliability of the date

??? – No excavation reports or information is available about the context of the date

\*\*\* This chronology chart uses easy to understand dates for the purposes of a general audience. The dates are expressed as “years old” from the year 2020 A.D. Please see individual site discussions for the technical scientific dates.

<b>YEARS OLD</b>	<b>TYPE OF STRUCTRE</b>	<b>LOCATION</b>	<b>RELIABILITY OF DATE</b>	<b>SEE PAGE</b>
10,000-11,000 years old	Meat Cache	Atkins Site, Maine	Good	15
4300-8600 years old	Stone Lined Crematory Pits	Wapanucket Site, Middleboro, MA	See discussion	6
5585 years old	Stone Pile associated with Burial Feature	Sewalls Falls, Concord, NH	Good	17
4425-4535 years old	Stone Piles at Habitation Site	Shepaug River, CT	Good	22
3700-6000 years ago	Hearth/Niche/ Petroglyph	Titicut Site, Bridgewater, MA	Good	28
3490-4270 years old	Stone Wall	Flagg Swamp Rockshelter, Marlborough, MA	Good	16
3065 years old	Collapsed Chamber	America’s Stonehenge, Salem, NH	Good	9
2700-6000 years old	Fish Weir	Swanzey, NH	Good	27
2190 years old	Quarried Bedrock	America’s Stonehenge, Salem, NH	Good	11
1565 years old	Double Circle of Stones	Gungywamp Site, Groton, CT	Good	8
1530-3232 years old	Stone Terrace / Mound	Oley Hill Site, Berks county, PA	Good	26
1500 years old	Oracle Chamber	America’s Stonehenge, Salem, NH	Good	12
1475 years old	Stone Chamber	Putney, NH	Poor	36
970 years old	Stone Chamber	Newton, NH	Poor	34
985 years old	Stone Mound	Reading, VT	???	33

870-930 years old	Enclosures	Barrington, RI	???	37
860-965 years old	Stone Mound	Freetown, MA	Good	4
775 years ago	Stone Chamber	Thompson, CT	???	29
650 years old	Enclosure	Gungywamp Site, Groton, CT	Fair	24
650 years old	Standing Stone	Calendar I, South Royalston, VT	Good	32
595-3595 years old	Stone Mound	Pratt Hill, Upton, MA	Good	18
540 years ago	Stone Pavement	Calendar I, South Royalston, VT	???	31
505 years old	Standing Stone	South Royalton, VT	Good	30
490 years old	Stone Wall	Manitou Hassannash Preserve Hopkinton, RI	Good	21
Pre-contact	Stack Stone Slabs	South Bay quartzite Quarry, Boylston, MA	Good	25
395-670 years old	Stone Chamber	Upton, MA	Good	5
370-430 years old	Stone Mound	Leverett, MA	Good	20
320 years old	Two Stone Mounds	Casco Bay, Maine	Good	14
200-350 years old	U-Shape Stone Structure	Douglas-Webster Area, MA	Good	13
Undated	Stone Mound (non-field clearing)	RI		23

## Stone Mound - Freetown, Massachusetts

790 +/- 155 Years B.P. (C14)

875 +/- 160 Years B.P. (C14)

James Mavor and Byron Dix undertook an excavation of a stone mound in 1983. The stone mound was part of a group of 110 stone mounds within a stone wall enclosing a former farm field or pasture. A four x five meter area (stone mound and surrounding ground) was excavated with one meter excavations units. Stones were removed in layers, soils were sifted and their stratigraphy was recorded, detailed drawings and excavations photos taken. No



Original excavation photo.  
NEARA Library

evidence of a plow zone was found. Two separate discrete concentrated deposits of charcoal were found within the mound

which measure 12 inches in diameter and 4 inches deep. The charcoal deposits were located towards the center of mound 3 ½ feet below the top of the mound and 8-10 inches below ground level. Radiocarbon dating was done by Geochron Labs. The excavation also recovered 120 pieces of red ochre within the mound. Red ochre is well documented archaeologically as a substance used by Native Americans in ritual contexts. [This excavation took place prior to the current ethical ban on the excavation of indigenous ceremonial stone features.]

### Sources:

Mavor, James and Dix, Bryon

1983 “Freetown Stone Pile Complex: Second Preliminary Report” dated July 11, 1983 and prepared by James W. Mavor, Jr. and Byron E. Dix, Associated Scientists at Woods Hole and Presented to the Board of Selectmen, Freetown, Massachusetts. On file with New England Early Antiquities Research Association (NEARA) Library.

1983 Letter dated October 2, 1983 to [redacted name], owner of the property on which the cairn was located. On file with New England Early Antiquities Research Association (NEARA) Library.

1983 Excavation photographs, drawings, and other materials. On file with New England Early Antiquities Research Association (NEARA) Library.

1989 *Manitou: The Sacred Landscape of New England's Native Civilization*. Rochester, VT: Inner Traditions International. See pages 66-75.

Gage, Mary & Gage, James

2021 Freetown Cairn Excavation: Developing New Evaluation Approaches for Stone Mounds. Paper available at <http://www.academia.edu/49145349>

## **Upton Stone Chamber, Upton, MA**

535 +/-80 years before the year 2011 (OSL)

580 +/-80 (OSL)

455 +/-70 (OSL)

Average age of 523 years

Date range of 1350 – 1625 A.D.

The Upton Stone Chamber has a corbel beehive shape room accessed via a long passageway. The chamber has been the subject of various research efforts since the 1940s. Mavor and Dix reported on the site in their book *Manitou* (1989) and hypothesized the chamber was used in conjunction with stone mounds on Pratt Hill a mile away for observing various astronomical alignments. Mavor and Dix proposed a date range of 700-750 A.D. for both the stone mounds used for the sightlines and the chamber. The date was derived from a high precision survey of the site along with astronomical calculations for the shift in position of the sun and stars over time (See chapter 2).



Upton Chamber: OSL samples were taken from the builders trench behind the left hand entrance wall.

In 2011, during restoration of the chambers entrance soil samples were obtained from the builders' trench behind the lowest stones in the entrance wall. The samples were sent to the USGS OSL Lab for testing. The results are listed above. According the co-authored article on the OSL dating of the chamber "These results put the origin of the entranceway to the Upton Chamber before documented English settlement of the area. Although there was a European presence on the coastline in Plymouth in 1620 and in Boston in 1630, settlement close by in Mendon did not occur until 1660." As discussed in the Mahan et al article, a very conservative approach was taken for the dates and chamber may be older than these dates.

Passageway - 14'3" long x 4'6" tall x 2'8" to 3'3" wide

Beehive room - ~11' diameter x 10'5" tall

### Source:

Mahan, Shannon & Martin, F. W., & Taylor, Catherine

2015 Construction Ages of the Upton Stone Chamber: Preliminary Findings and Suggestions for Future Luminescence Research. *Quaternary Geochronology* (2015), pp.1-9.

Mavor, James and Dix, Byron

1989 *Manitou: The Sacred Landscape of New England's Native Civilization*. Rochester, VT: Inner Traditions International.

## Stone Lined Crematories, Wapanucket Site #2 & #5, Middleboro, MA

[1960s C14] Circa 4300 B.P. +/-300 (C-14 dates from associated contemporary nearby sites)

[1986 AMS] Circa 8600 B.P. +/- 80 years

Wapanucket sites 1 through 8 were located along a 1500 stretch of a former sand dune. The sites consisted of habitation sites and burial features. Two crematory pits lined with flat sandstone slabs were excavated. NOTE: These burial and crematory excavations took place before the enactment of federal laws prohibiting the desecration of burials.

### Wapanucket #2

“...a large hearth-like feature 2.5 meters in diameter. This feature had been constructed by excavating a circular pit with vertical sides to a depth of 65 cm. from the present surface. A layer of fine white sand, 25 cm, in thickness, had then been spread over the bottom of the pit. Large irregularly shape pieces of sandstone had been used to pave the excavated area and similar stones had been set on edge about its perimeter. Several bushels of charcoal were removed from this feature before this pattern became visible. The sand beneath the stone pavement was stained black to a depth of about 20 cm. At two points recent holes had penetrated the feature and some of basal stones had been removed. No recognizable fragments of human bone or artifacts were found in the feature. Arranged about the northeast side of the pit were five small hearths, all about 40 cm. in diameter and 35 cm. deep at their centers. A ring of small stones encircled each hearth.” (Robbins 1868, 17)

### Wapanucket #5

“A pit about 3 meters in diameter had been excavated and filled with fine white sand. This sand contained many water worn pebbles suggesting that its source was the shore of the lake. Large flat pieces of sandstone were again used to pave and line the pit which was completely filled with charcoal. Nearly five bushels of charcoal were removed and sifted. Beneath the stone pavement the sand was stained to a depth of 20 cm, and the soil immediately about the pit was burned to a deep red color. Many of the stones were cracked by intense heat. Several fragments of bone recognized as human in origin. Eighteen stemmed points, a notched tablet, a stone chisel, and a perforated pebble, all showing the effects of intense heat, were taken from this feature. ... These features were not recognized as crematories until after the four secondary burials of incinerated bone were found.” (Robbins 1968, 17)

C-14 dating was not done for the above two crematory pits. However, Feature #206 at Wapanucket #8, burial H produced a C-14 date of 2340 years BC +/- 140 (GX-11-4, Geochron Inc.) Feature #206 was a large pit with eleven subfloor pit burials. Some of these subfloor burials include the use of sandstone slabs. The large pit had two ramp entrances into it and was surrounded by post holes. It was interpreted as an ossuary. Two additional C-14 dates from Wapanucket sites are: 2292 years BC +/- 300 (hearth feature), and 2341 years BC +/-250 (four burials). (Robbins 1968, 7)

In researching his dissertation, Brian Robinson felt the dating for Feature #206 was too young based upon his extensive research into mortuary ceremonialism for the Gulf of Maine. He sought out the original investigators and collections from the Wapanucket sites. A sample of “Red Paint-Sand mixture” was located from feature #206. Two charcoal pieces in the sample were sent for modern AMS radiocarbon dating and produced dates of 8670 +/- 85 (AA 18463) and 8610 +/- 80 (AA 21972) years BP. (Robinson 2001, 129)

Sources:

Robbins, Maurice

1968 *An Archaic Ceremonial Complex at Assawompsett*. Attleboro, MA: The Massachusetts Archaeological Society.

Robinson, Brian

2001 *Burial Ritual, Groups and Boundaries on the Gulf of Maine: 8600-3800 B.P.*

Dissertation, Department of Anthropology, Brown University. UMI Dissertation Services #3006784

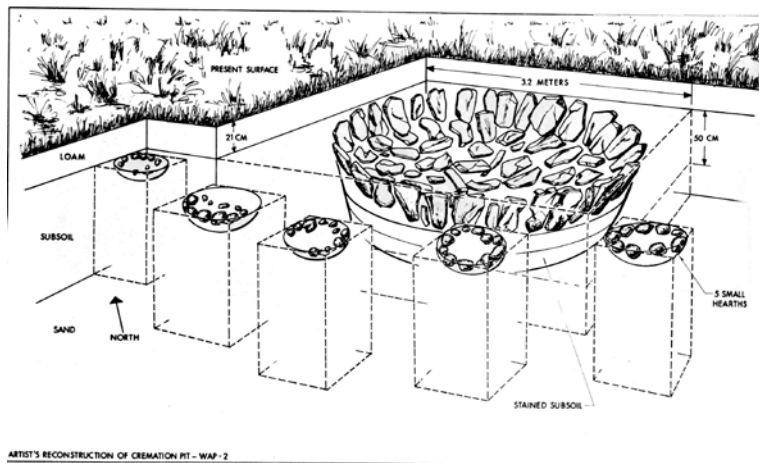


Fig. 8 Crematory at Wapanucket #2 Site.

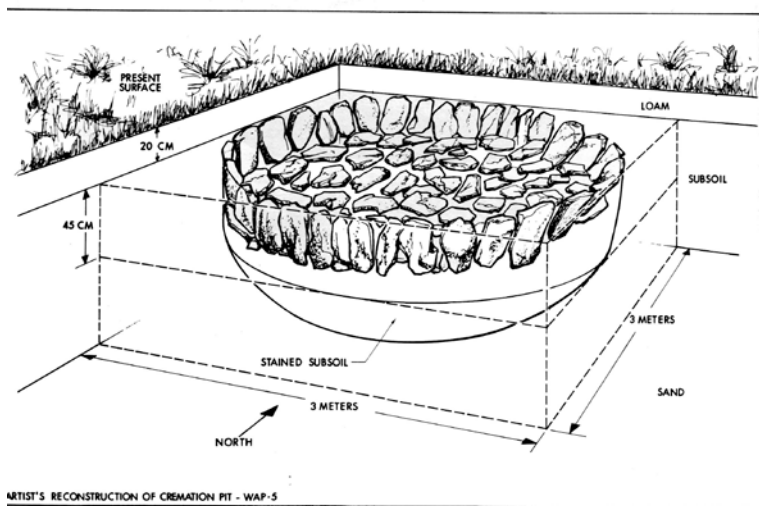


Fig. 9 Crematory at Wapanucket #5 Site.

Artist's Reconstruction of Crematory Pits (From Robbins 1968)

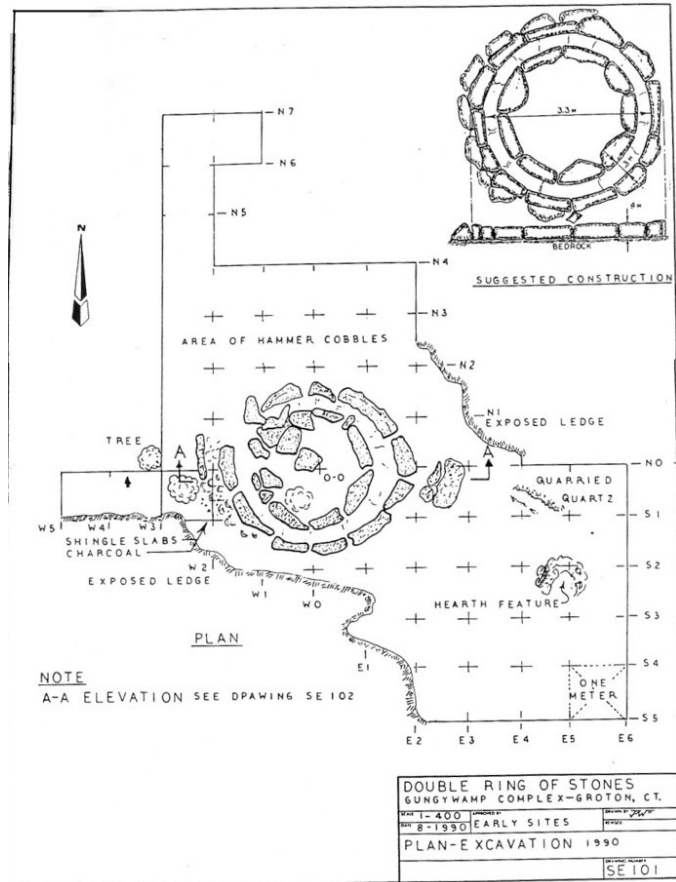


## Double Circle of Stones, Gungywamp Site, Groton, CT

1495 +/- 175 years B.P. (C-14, C-13 corrected) (GX-15986)

Excavations of the area around the stone circle found late 18th and early 19th century redware shards, 19th century iron button, and lithic materials: a scraper, small quartz projectile points and flakes, and hammer stones.

The structure was built on exposed bedrock ledge. It consists of two concentric circles of stone: Outer circle has either twelve or thirteen stones – diameter 10.82 feet; Inner circle has nine stones – diameter 8.85 feet. No metal tool marks were found on the stones. Stones forming the circle were shaped with either convex or concave outer/inner sides to form a curved channel. On the southwest side the outer stones were raised in place by stone shingles underneath and backed on outer side with large stones. Floor of channel was paved with flat stones. Charcoal found embedded in the stone shingles in the build up under the north side wall was dated to 1495 +/- 175 BP (Before Present) (C-13 corrected) (GX-15986) (Whittall & Barron 1991, 13) Mean date of 455 A.D.



James Whittall's Excavation Drawing (1991)

Note: Some archaeologists have argued this was a tan bark mill in which a large circular stone was rolled around in the channel between the two stone rings to crush the bark. Historical accounts indicate the wheel would have been attached to a horizontal pole/axle that revolved around a central pivot point in the middle of the circle. The pole would have been harnessed to a team of oxen or a horse who walked around the circular mill. The flaw in this hypothesis, is the bedrock around the double circle is extremely uneven (up and down). In places around the outer edge of the double circle where the animals would have to walk to move the pole, the bedrock dips below the bottom of the double circle in one place and rises higher than the double circle in another place. This would have made it impossible for the animal(s) to properly move the crushing wheel on the pole. A level area free of such uneven surfaces was available nearby.

### Source:

Whittall, James II & David P. Barron

1991 "Double Ring of Stones, The Gungywamp Complex." *Early Sites Research Society Bulletin* v.18 no.1 (October 1991) pp. 7-24.



## **America's Stonehenge, Mystery Hill, Salem, NH**

15 different radiocarbon dates have been reported for the America's Stonehenge site. A complete list can be found at <http://www.mysteryhillnh.info/html/c-14.html> This discussion will be limited to three of those dates that can be reliably tied to stone structures and/or the quarrying of stone for the structures at the site.

### ***Collapsed Chamber***

2995 years B.P. +/- 180 years (C-14) (GX-1608)

In 1969, James Whittall and others opened up an excavation unit on the exterior north side of collapsed chamber in undisturbed soils. The chamber itself was built directly on the bedrock. Whittall reported:

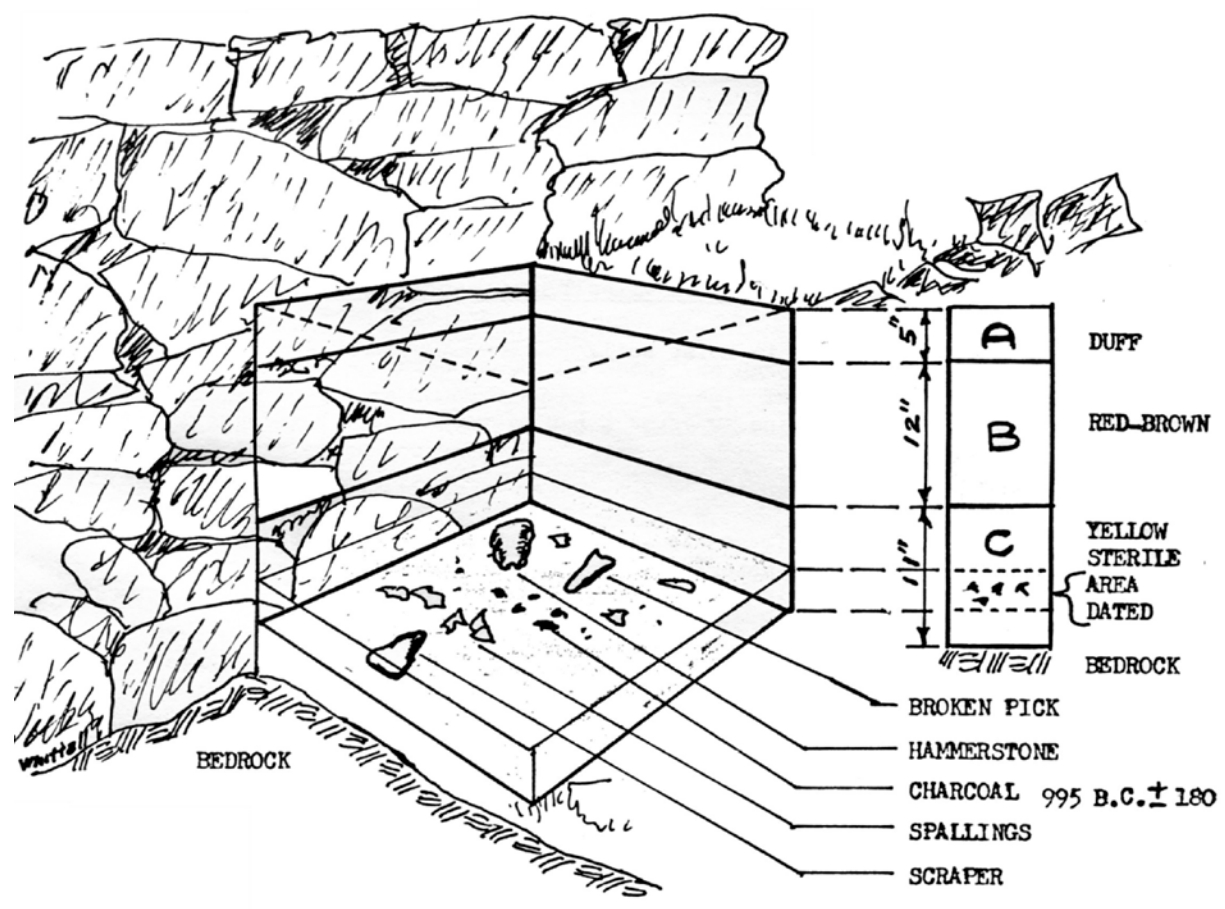
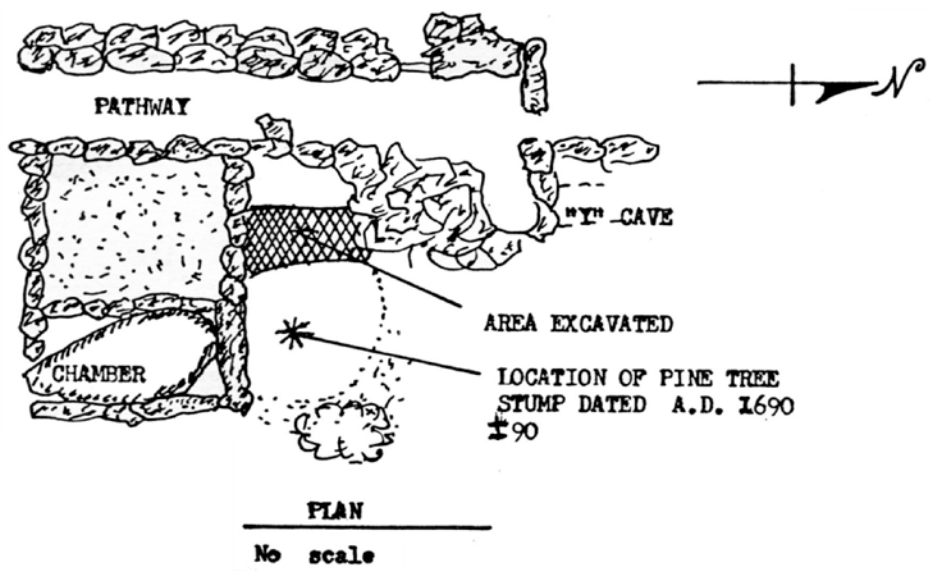
“Digging continued down in a column averaging 24” in depth at a point, 3” to 8” above bedrock an old occupation surface was met. It included numerous sharp edged spalls from granite quarrying. Some of these showed evidence of fire. Charcoal flecks occurred.

A broken pick, a hammer stone and stone handscraper were found. The scraper showed wear on the working edge. A sample of charcoal picked form this level was submitted to Geochron Laboratories for radiocarbon 14 testing. We obtained a dating of 2995 years B.P. +/- 180 years” (p.50)

### **Source:**

Whittall, James

1969 2995 B.P. +/-180. *NEARA Newsletter* v.4 no.3 (Sept. 1969), pp.50-52.



ISOMETRIC DRAWING OF THE EXCAVATION MAY 1969  
 MYSTERY HILL NORTH SALEM, N.H.  
 51

James Whittall's Excavation Drawing (1969)

## America' Stonehenge (continued)

### *Quarried Bedrock*

2120 +/-95 years B.P. (C-14) (GX-2029)

In 1970 James Whittall opened an excavation unit in an open area north and west of the main complex of stone structures. The excavation recovered charcoal “on top and in a seam of quarried bedrock.” (p.19) the charcoal was radiocarbon dated to 2120 +/-95 years B.P. (GX-2029). This indicates the bedrock was quarried on or prior to this date.

David Stewart-Smith. Ph.D., a master stonemason, made a strong case for indigenous people quarrying and shaping stone at the site in his booklet *Ancient and Modern Quarry Techniques* (1989) scanned copy available at <http://www.mysteryhillnh.info/Stewart-Smith-1989.pdf>

### Source:

Whittall, James Jr.

1971 Megalithic Site – Mystery Hill North Salem, New Hampshire Radiocarbon Date Excavation October 1970. *NEARA Newsletter* v.6 no.1 (Mar. 1971), pp.19-20.

## America' Stonehenge (continued)

### *Oracle Chamber Drain*

1430 year B.P. +/-135 (C-14) (GX4732)

This excavation was done in 1970 by James Whittall. He reported:

“The drain was constructed of placed stones for bearing walls, covered with large (100-150 kilo) capstones, which were then chinked with smaller stones. The drain was still in operation at the time of my investigation, with 10 centimeters of clear space. The capstones were removed, and fresh leaves, along with a small “pop” can were found in the upper 7.5 centimeters of a mixed coarse silting. This was followed by another 10 centimeters of a medium to fine, undisturbed silt. An unusual stone artifact was recovered in this area. The next 5 centimeters to bedrock consisted of a fine washed silt. The total silting in the drain was 25.5 centimeters which would indicate an age greater than three hundred years. All silt from the last 5 centimeters was removed from under capstone No.2 The dirt was then carefully checked for seed and charcoal. No seeds were present but there was a limited amount of charcoal. This charcoal was meticulously stored for future carbon-14 testing.” (p.18)

#### Source:

Whittall, James Jr.

1977 Excavation Report: Chamber Drain, New Hampshire. *Early Sites Research Society Bulletin* v.5 no.1 (Feb. 1977), pp.18-21.



Interior of the Oracle Chamber

**U-Shape Stone Structure on Stone & Earth Platform, Douglas/Webster area, MA**  
1600s - 1800s AD (dated archaeologically based upon artifacts & other criteria)

Not all Native American stone structures date from the pre-contact period.

“Stone Structure 2” at this site is a roughly rectangular shape raised earth and stone platform (3.5 x 6.5 meters) oriented east-west and surrounded by a ditch / trench. On top of the platform is a U-Shaped stone structure about 0.75 meters high. Loose stone slabs were placed across the entrance of the enclosure. John Milner Associates excavated two judgmental 50x50 cm test pits in front of the structure’s entrance. Both test pits encountered charcoal. JP2 recovered a polished greenstone stone celt, quartz bifacial tool (drill?), and iron nail (either wrought [hand-forged] or cut). Archaeologist Martin Dudek hypothesized that the U-shape stone structure was a chimney or hearth feature for a Native American wetu (dwelling) or outdoor oven. Dudek suggested the site may be related to the nearby 1674 praying Indian village at which missionary John Elliot taught the Native Americans various skills for making wood products (ex. shingles) saleable to the whites. The structure may have been involved in this wood production economic activity.

Editors Note: This is one of at least five confirmed (maybe as many as seven) U-shape stone structures within about a two mile radius area. There is no archaeological record of indigenous people using stone chimneys in traditional wetu houses. The chimney interpretation is questionable. “Stone Structure 2” was built in an area with well drained soils and therefore there was no practical reason for the raised earth and stone platform it sits on. The effort and time that went into the platform’s constructions tends to suggest a ceremonial function. U-shape stone structures have been reported from numerous stone cairn groups throughout the northeast.

Source:

Dudek, Martin G.

2020 Post-Contact Upland Sites Near Lake Chaubunagungamaug. *The Bulletin of the Massachusetts Archaeological Society* v.81 no.1-2 (Spr. 2020) pp.49-64.



U-Shaped Stone Structure on Stone and Earth Platform



## **Two Stone Mounds, Casco Bay, Maine**

Pre-1703 A.D. (historic records)

Casco, Maine - In June 1703, Capt. Samuel Penhallow, who represented New Hampshire was at the Casco Conference with Gov. Dudley of Massachusetts. Penhallow later wrote a narrative on the Indian wars from 1703 to 1726. "as a testimony [of peace] thereof, they presented him [Gov. Dudley] a belt of wampum, and invited him [Gov. Dudley] to the two pillars [stone heaps] of stones, which at a former treaty were erected, and called by the significant name of the Two Brothers; unto which both parties went and added a greater number of stones." (Penhallow 1859, 16 )

It is clear from another account, that one stone mound represented the Native Americans and the other represented the colonists. In a letter from Captain Cyprian Southack to Governor Dudley, dated "Casco Bay May the 17: 1703 from on board the Maj`tys ship Province Galley", the Captain writes, "Sir on the 11 of May at 2 oclock afternoon we got off the dead man from Cousins' Island, and no sign of any French or Indians about the bay. At 7 oclock afternoon came down to the fort (New Casco) and the next morning we buried the man at our heap of stones." (Goold 1886, 198) Captain Southack was particular about stating "our heap of stones."

### Sources:

Goold, William

1886 Letter from Captain Cyprian Southack to Governor Dudley, dated "Casco Bay May the 17: 1703 from on board the Maj`tys ship Province Galley" quoted in, *Portland in the Past with Historical Notes of Old Falmouth* [Maine], Portland, ME: Printed for the author by B. Thurston & Company, 1886.

Penhallow, Samuel

1859 *The History of the Wars of New-England with the Eastern Indians, or a Narrative of their continued Perfidy and Cruelty ...*, Philadelphia, PA: Oscar H. Harpel. Reprint of 1726 Boston edition with memoir, notes, and appendix by O. S. Harpel.

### **Meat Cache – Adkins Site, Aziscohos Lake, Maine**

10,000-11,000 B.P. (based upon associated lithic artifact assemblage)

The water levels of Aziscohos Lake are dam controlled. The Adkins Site is periodically exposed during low water levels. This single component site consisted of a dwelling feature (i.e. tent), lithic workshop area, and a stone structure interpreted as a meat cache. The stone structure was an oval grouping of boulders three meters in length. The boulders surrounded a dug pit feature. Some of the stone were the result of natural placement while others were moved and placed into position by Native Americans. Archaeologist Gramly states, “Four of the large rocks rimming the pit jutted inward, in effect, partially roofing it.”(p.15) Gaps between the larger stones were filled with smaller stones. An opening 40 cm wide on the north side of the structure was found. Gramly observed, “The permanent meat storage chambers or cellars of the Inuit closely resemble the Adkins stone feature.” (ibid) The stone structure was removed from the site and reassembled at the Maine State Museum and is on display. The lithic artifact assemblage recovered at the site was identified as dating from the Paleo-Indian period.

#### Source:

Gramly, R.M.

1988 *The Adkins Site: A Palaeo-Indian Habitation and Associated Stone Structure*. Buffalo, NY: Persimmon Press Monographs in Archaeology.



## **Terrace Stone Wall, Flagg Swamp Rockshelter. Marlborough, MA**

4200 +/-120 years B.P. (Beta 4059) to 3420+/-90 years B.P. (Beta 4055)

\*C14 Dates from associated soil strata with habitation evidence.

The “terrace wall” was a curved stone wall built along the drip line of the rock shelter. Soils accumulated behind the wall created a terrace within the rockshelter. It was described as follows: “It is a curved wall of dry-laid stacked angular stones and pieces of roof fall that followed the edge of the terrace and bent back to the rock face at the western end and the rear of the rockshelter at the east end.” (p.5) The base of the wall was in stratum 4 which dated to the Late Archaic period. Stratum 4 and stratum 3 within the terrace area had C14 dates ranging from 4200 +/-120 years BP (Beta 4059) to 3420+/-90 years BP (Beta 4055)

Source: (The most accessible source)

Blancke, Shirley, & Spiess, Arthur E.

2006 The Flagg Swamp Rockshelter, Marlborough, MA: A Summary. *Bulletin of the Massachusetts Archaeological Society* v.67 no.1 (Spr. 2006). pp.2-24.

**Stone Mound and Associated Burial Feature, Sewalls Falls, Concord, New Hampshire**  
5155 +/- 190 Years B.P. (C-14) (GX-14009)

Feature 5 at the Beaver Meadow Brook Site was classified as a cairn and associated with feature 9 a cremation burial. Feature 9 had “A Radiocarbon date of 5155 +/- 190 years B.P. (GX-14009) was obtained from charcoal excavated from immediately below the feature.” (pp. 61) The report states, “Feature 5 This feature, located in excavation units N0E0 and N1E0, consisted of stacked cobbles and stones ... and has been identified as a cairn. The total weight of the stones and cobbles was 124.5 lbs (274.5 kg). It extended from a depth of 48 cm to 83 cm. It is likely that it was associated with the cremated human remains, Feature 9, and Feature 4. No other features like this were found on either bank of the river in the Sewall’s Falls area.”

Source:

Dennis E. Howe,

1988 The Beaver Meadow Brook Site: Prehistory on the West Bank at Sewall’s Falls, Concord, New Hampshire. *New Hampshire Archaeologist* v.29 no.1 (1988), pp. 49-107.

## **OSL dates for stone structures at a site in Rhode Island and two sites in Massachusetts**

In 2018, the USGS OSL lab collected soil samples at three stone structures, two in Massachusetts and one in Rhode Island.

NOTE: Only the executive summary from the USGS report for these samples was released publicly. Some details included in this summation come from the full report currently not released to the public. Dates in this section are years before the date the samples were analyzed which was the year 2018.

### Stone Mound, Pratt Hill Site, Upton, MA

1475-1375 C.E. (595 plus or minus 50 years) – 50 cm depth

1315-1835 B.C.E. (3595 plus or minus 260 years) – 75 cm depth

The Pratt Hill site has nine large stone mounds, a row of stone mounds and a complex of interconnected stone walls. Mavor and Dix reported on the site in their book *Manitou* (1989) and hypothesized some of the stone mounds were used as horizontal markers to sight the movements of the sun and stars from the Upton stone chamber about a mile away. Mavor and Dix proposed a date range of 700-750 A.D. for both the stone mounds used for the sightlines and the chamber. The date was derived from a high precision survey of the site along with astronomical calculations for the shift in position of the sun and stars over time (See chapter 2).

According to the Town of Upton:

“Pratt Hill: The site contains a Native American ceremonial stone landscape consisting of stone mounds and other stone features. The stone features are on both private land and Upton State Forest. The largest mound (photograph) was recently destroyed. Pratt Hill also has other historical sites, including remnants of the 19<sup>th</sup> century ‘Lead Aqueduct’ water supply system and 20<sup>th</sup> century infrastructure built by the CCC.” (Town of Upton 2011, p.48)

Circa 2010, one of the stone mounds was pushed off of its original base by a tractor. The damaged was done by the land owner at the time. Despite the damage an intact soil profile was documented by Shannon Mahan (USGS) at the location of the former stone mound. 75 centimeters of soil was found with two soil strata on top of a below ground large boulder. The top stratum was a dark humus layer 5 cm in depth, the lower layer was a fine yellow dust with faint layers. (It is unclear if the stone mound itself extended into the 75 centimeters of soil.) Mahan characterized the soil as “dust or loess that had blown into the structure and collected in the scooped out hollow of the boulder foundation” (USGS Report – Executive Summary) This indicates the soil deposition occurred after the stone mound was built. The soil strata were largely undisturbed except for the remains of a small dead tree. Sample #1 was taken at 50 cm below the surface, sample #2 at the 75 cm depth.

Sources:

Mahan, Shannon

2021 *Optically Stimulated Luminescence (OSL) data and ages for selected Native American Sacred Ceremonial Stone Landscape features –Final Project Report Submitted to the Narragansett Tribal Historic Preservation Trust* (August 19, 2021) Geosciences and Environmental Change Science Center, U.S.G.S. [Only the report's *Executive Summary* was released publically] <https://www.usgs.gov/data/optically-stimulated-luminescence-osl-data-and-ages-selected-native-american-sacred-ceremonial>

Town of Upton Open Space and Recreation Plan (May 2011) -

[https://www.uptonma.gov/sites/g/files/vyhlf5121/f/uploads/open\\_space\\_recreation\\_plan.pdf](https://www.uptonma.gov/sites/g/files/vyhlf5121/f/uploads/open_space_recreation_plan.pdf)

Mavor, James and Dix, Byron

1989 *Manitou: The Sacred Landscape of New England's Native Civilization*. Rochester, VT: Inner Traditions International.

### *OSL Dates from RI & MA (Continued)*

#### Vertical Walled Stone Mound, Tolba Site, Leverett, MA

1670-1510 C.E. (430 plus or minus 80 years) – 10 cm depth

1730-1570 C.E. (370 plus or minus 80 years) – 20 cm depth

1420-1220 C.E. (700 plus or minus 100 years) – 25 cm depth (surface that structure was built on)

Three soil samples were obtained from a hole dug on the north side of the vertical walled stone mound. The first sample was taken at a 10 cm depth and came from underneath some flat stones. Whether these stones were part of the structure or not was not specified. The second sample was taken at the 20 cm depth. The third sample was taken at the 25 cm depth in a clayey texture soil with a Munsel color of 10YR/5-yellow brown. This soil strata was identified as the original land surface the structure was built on. (The sampling strategy dated both the soil stratum the structure was built on as well the soil stratum the accumulated after the structure was built creating a bracketed set of dates. The two upper level samples overlap each other when their +/- range is factored in and thus served as cross check.)

#### Control Sample (near stone mound), Leverett, MA

1470-1230 C.E. (670 plus or minus 120 years)

There was a house cellar near the vertical walled stone mound. The cellar is reported as belonging to a house built circa 1830 and “presumed” to have burned down between 1869-1871. No historical sources were cited. A brick was removed from under the fireplace for dating the cellar to serve as a calibration control. As of August 2021 it had not been tested. The house cellar provided easy access to deeper soil strata. Digging below the cellar wall the same soil stratum the stone mound at been built on was encountered. A soil sample was taken from this stratum and returned a date similar to the sample taken from the same soil strata (i.e. 25 cm depth) at the stone mound. This served as cross check for the stone mound sample. This sample does NOT nor was it intended to date the house cellar.

#### Source:

Mahan, Shannon

2021 *Optically Stimulated Luminescence (OSL) data and ages for selected Native American Sacred Ceremonial Stone Landscape features –Final Project Report Submitted to the Narragansett Tribal Historic Preservation Trust* (August 19, 2021) Geosciences and Environmental Change Science Center, U.S.G.S. [Only the report’s *Executive Summary* was released publically] <https://www.usgs.gov/data/optically-stimulated-luminescence-osl-data-and-ages-selected-native-american-sacred-ceremonial>

### *OSL Dates from RI & MA (Continued)*

Stonewall Structure, Manitou Hassannash Preserve, Hopkinton, RI  
1570-1490 C.E. (490 +/-40 years)

This stone wall like structure is located approximately 100 feet to the northwest of the Brightman cemetery at Manitou Hassannash Preserve. The structure is built partial on exposed ledge and partial on the ground and has a roughly north-south orientation. At the southerly end of the bedrock on the easterly side, the bedrock has multiple splits at about 70 angle (looks something like \ \ \.) There is a stone mound built over one of the splits. Roughly 10-15 feet to the north of the stone mound, a stone wall segment begins at a large boulder on top of the bedrock and heads northward. The wall segment connects to an extra large boulder, continues on the opposite side of the boulder for a short distance connecting to another extra large boulder at the northern terminus of the wall segment. A portion of the wall segment at the northerly end is on the ground. The wall segment curves in an arc and is not straight.

A soil sample was obtained on the east side of the northerly portion of the wall segment at a depth of 45 cm (18 inches) beneath some of the base stones of the wall. The sampling team was unsure if they had reach the bottom of the wall or not.

Note: Some researchers refer to this structure as the “double headed serpent wall.”

#### Source:

Mahan, Shannon

2021 *Optically Stimulated Luminescence (OSL) data and ages for selected Native American Sacred Ceremonial Stone Landscape features –Final Project Report Submitted to the Narragansett Tribal Historic Preservation Trust* (August 19, 2021) Geosciences and Environmental Change Science Center, U.S.G.S. [Only the report’s *Executive Summary* was released publically] <https://www.usgs.gov/data/optically-stimulated-luminescence-osl-data-and-ages-selected-native-american-sacred-ceremonial>

### **Stone Piles at a Habitation Site, Site 6LF2, Shepaug River, Connecticut**

2405 B.C. +/- 185 years (C-14 dated hearth with nearby associated stone pile)

2515 B.C. +/- 240 years (C-14 dated hearth with nearby associated stone pile)

This camp site was located on a glacial kame terrace on the Shepaug River. The site was classified as belonging to the narrow-point tradition. Several piles or concentrations of river cobbles were excavated and interpreted as boiling stones used in cooking. Although the placing of boiling stones in a piles seems insignificant, it demonstrates that indigenous cultures were using stone piles for utilitarian purposes. In addition, an 18 inch stone circled work area was interpreted as having “possible religious” aspect.

“ Seven firepits occurred on the small-stem, side-notch level, and flecks of charcoal were scattered over the entire living floor. ... The pits were 21 to 30 inches in diameter and six to ten inches deep. They all had river cobbles, either associated with them directly or in piles no more than eight feet away. The presence of these rocks suggests a method of cooking by boiling, probably in bark containers. ...

One hearth consisted of three layers of charcoal and three layers of river cobbles arranged like a sandwich. A C-14 date of 2405 B.C. +/- 185 years was recorded for the middle layer of charcoal. ...

Four additional firepits were in a cloverleaf arrangement and were ringed with stones. An additional pile of river cobbles, presumably for cooking purposes, was four feet northeast of these hearths. Two additional pits did not have a large number of stones directly associated with them when they were exposed. Both, however, had piles of river cobbles approximately seven feet away. While these hearths could conceivably have been roasting fires, the absence of preserved bone and plant remains would suggest that these, in conjunction with the neighboring stones, were used in preparation of boiled food. They might also have been used for a purpose other than cooking, however. One of these two pits was excavated by Stephen Post and Douglas Jarvis, Gunnery School students. It has returned the oldest C-14 date so far recorded for the State of Connecticut, 2515 B.C. +/- 240 years. ...

In addition to the seven firepits and the acorn pit, 11 other features were recorded. Three of these were piles of river cobbles 24 to 36 inches in diameter and up to 12 inches deep. One of these had an unusual concentration (cache) of tools next to it. Two of the five pitted stones, three anvil stones, three hammerstones, quartz cores, one quartz knife, and three crude quartz tools were in a 12 inch area north of the stone pile. Moderately heavy concentrations of debitage were in the immediate vicinity, indicating that this might have been a work area as well.

Three other features were obvious work areas. One was an 18 inch-diameter circle, edged with larger stones and containing occasional charcoal fragments, 12 crude quartz tools, and 451 pieces of debitage per inch of soil depth. It was located three feet north of a firepit. According to [archaeologist William] Ritchie, because of the stone circle there may have been a significance, possibly religious, greater than that of a normal work area connected with this feature. ...” pp. 32

#### Source:

Edmund Swigart

1974 *Prehistory of the Indians of Western Connecticut: Part 1, 9,000-1000 BC*. Washington, CT: American Indian archaeological Institute.



## Stone Mound on Boulder, Site SK155, Rhode Island

Undated

The site is located near the Great Swamp an area culturally important to the Narragansett Tribe. This site was investigated by PAL, Inc. under the supervision of professional archaeologists Alan Leveillee and Mark Lance. According Leveillee & Lance:

“During final clearing of the boulder that Feature 1 [hearth] was situated around, some cobbles were noted on the surface by Deputy Narragansett Historic Preservation Officer (DTHPO) Doug Harris. The duff was cleared over this area to reveal a nearly complete ring of intentionally laid cobbles on top of the boulder ... The only cultural material noted during clearing was two pieces of argillite chipping debris. The cobbles are unmodified, angular and rounded, and of differing raw materials (granite, schist.) ...

“Feature 2 is a ring of stones placed upon the glacial boulder that was proximal to Feature 1. The piled stones that constitute Feature 2 were near the surface, surrounded by and with a plowed soil stratum. It is an apparently intentional grouping of stones, all of which are too small to have been set aside during field clearing or plowing.” (emphasis added)(p.60)

Feature 1 was a hearth identified by burnt soil. The hearth was built adjacent to the side of a boulder (boulder size is 1.4 meter long x 1 meter deep) and an arc of five stones defined the outer edge of the burnt soil area. The top of the hearth feature was found at 20 CM below ground level at the junction between soil level Apz (plow zone) and soil level B1 (subsoil) and extended downward. Charcoal from the hearth was dated by radiocarbon (AMS) to 4340 +/- 40 years BP (Beta-233667).

The ring of small stones on top of the boulder is stratigraphically higher than the hearth feature therefore it posts dates the radiocarbon date for the hearth. Although undated, the archaeologists acknowledge the fact that this was not a field clearing feature.

### Source:

Leveillee, Alan & Lance, Mark

2008 On the Archaeology of Stone Piles and a Late Archaic Date from Site SK 155, RI. *Bulletin of the Massachusetts Archaeological Society*, v.69 no.2 (Fall 2008),pp.58-63

**Enclosure, Gungwamp Complex. Groton, CT**  
 580 +/- 240 B.P. (C-14) (GX13071)

This structure was excavated by the Early Site Research Society and the Gungywamp Society in 1982 and 1986. The structure consisted of an “L-shape dry masonry stone wall with an entrance built against a vertical ledge. The excavators reportedly removed “collapsed roof and wall stones” from the interior of the structure but provided no details about the alleged roof stones. The structure is being classified as an enclosure rather than a chamber due to lack of proof for roof stones. The soil strata within the interior was described as “highly disturbed” and no artifacts were found. However, a hearth feature was found in the interior and produced a C-14 date of 130 +/- 75 BP (GX-1147) or in other words an historic campfire.

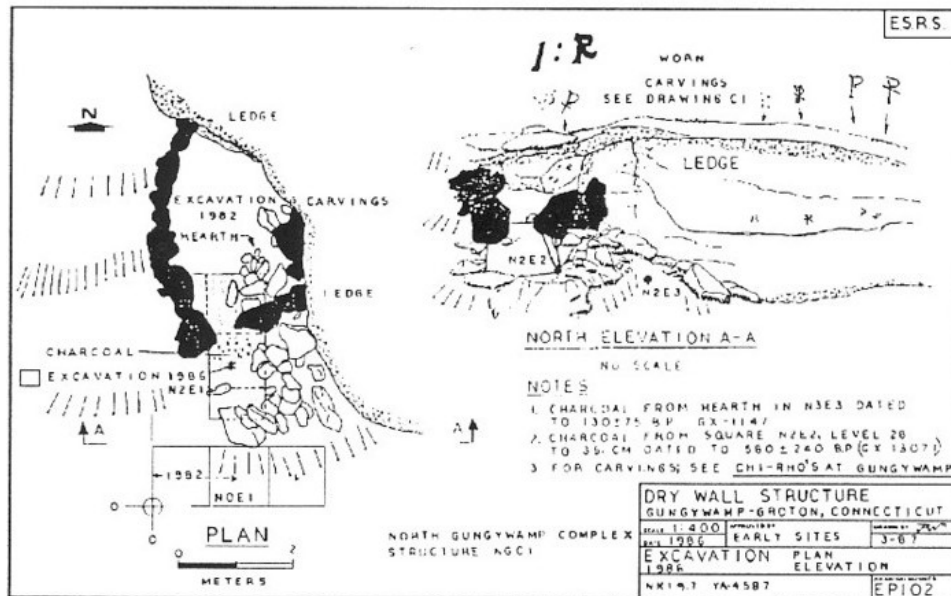
Excavators reported, “The area in front of the entrance was continued down to bedrock. Below the A strata, two artifacts were recovered: a broken section of a crude lithic digging tool, and a sandstone slab which had been shaped by fractional chipping. From 15 to 28 centimeters a scattering of charcoal was recovered which was submitted for radiocarbon testing. The charcoal recovered from N2E2 gave a carbon date of 580 +/- 240 BP (GX13071).”

Additional units were opened up around the perimeter of the structure to look for additional charcoal samples and none were found. This suggests the charcoal was not the result of forest fire but rather of human agency. Whether the 580 BP date correlates to the structure itself is open to debate. The presence of a “crude lithic digging tool” and modified sandstone slab attest to indigenous activity of this locus.

Source:

Whittall, James

1986 Stone Structure North Gungywamp Complex Excavation Report: Groton, Connecticut.  
*Early Sites Research Society Bulletin* v.13 no.1 (Dec. 1986)



James Whittall's excavation Drawing (1986)

## Stacked Stone Slabs, South Bay Quartzite Quarry, Boylston, MA

Pre-contact Native American quartzite quarry

*“Table Anvil.* Perhaps the most intriguing feature was discovered when I explored along the mountain’s crest in a northeasterly direction. Here the quartzite bedrock extended more than 300 feet from the first area of our investigation. At a spot located on sloping terrain I came upon two large slabs of quartzite, one lying on top of the other. Unlike the mined material they were of a poor grade of this stone, and lay on a schisty granite base, as though they had been moved into place by hand labor. Both were about the same impressive size measuring 5 x 6 ½ feet, with the top slab having a varying thickness of 6 or more inches in some places, and estimated weight of some 200[0] pounds or more. Apparently, this upper slab had been lifted up at one end to more or less of a horizontal position from its former 30° sloping stance. Several large blocks of quartzite had then been shoved between the slabs at one end to hold the upper one in place. ... Excavation in the form of a small trench about the base of the stone slabs uncovered extensive remains of quartzite spalls, flakes, and lumps of worked stone. These were found to be composed of worked blanks, broken stock, and various Hammerstones ... Evidently, here was the main quarry workshop where the mined stone was worked into small blanks of convenient size from which to make artifacts at home sites. The top slab showed pitted wear of anvil nature over its extensive surface that had produced a slight concavity towards the center. This in effect appears to be an oblong Table anvil, which shows signs of having had its ends straightened by heavy chipping and thus worked into shape.” (pp.18 & 20)

Lemire, Raymond

1975 South Bay Quartzite Quarry. *Bulletin of the Massachusetts Archaeological Society* v.36 no.3&4 (Apr-Jul 1975), pp.17-21.



Stacked Stone Slabs Used as Work Bench at a Lithic Quarry (From Lemire 1975)

### **Stone Terrace/Mound, Oley Hill Site, Berks County, PA**

490 A.D. +/- 160 years to 3030 BC +/- 540 years

570 B.C. +/- 330 years (statistical mean date from eight samples)

The Oley Hills site is located on a ridge and consists of large stone mounds, small stone mounds, flat top stone mound platforms, and stone walls. Some of the stone features are interconnected by stone walls. The site covers about 14 acres. Two rock samples were removed from the stone feature known as the "Terrace" from the bottom of a 40 cm deep hole dug into the structure. The idea was to obtain samples which had not been exposed to light since the structure was built. Details of the sampling procedure are described in the article by Feathers and Muller. Samples were sent to the OSL lab at University of Washington.

Only one of the two rock samples proved suitable for obtaining core samples for OSL dating. Three core samples were taken from one of the rocks and cut into multiple slices for testing with both OSL and IRSL procedures. Feathers and Muller's article discusses all of the scientific technical aspects of the process and the statistical uncertainties. Eight sampling dates were reported and ranged from 490 AD +/- 160 years to 3030 BC +/- 540 years with a statistical mean date 570 BC +/- 330 years. The date range is well before European arrival in the Pennsylvania region.

More information on the site, see *Accenting the Landscape: Interpreting the Oley Hills* by Norman Muller <https://www.academia.edu/24814027/>

#### Source:

Feathers, James & Muller, Norman

2020 Optically Stimulated Luminescence Dating of a Probable Native American Cairn and Wall Site in Eastern Pennsylvania. *North American Archaeologist* v.41 n.1 pp.33-50.

### **Swanzey Fish Dam, Swanzey, NH**

Late/Terminal Archaic Period (2700-6000 B.P.)

The Fish dam or weir is a V shape stone structure with an opening at the apex built in the Ashuelot River. The west wing is 10 meters long and the east wing is 24 meters long. Goodby et al state “In the absence of datable organic remains directly associated with the dam, evidence of terrestrial Native American sites directly associated with the dam provided the only means of establishing the dam’s cultural affiliation and age. Shovel testing revealed that Native American artifacts were distributed intermittently across both banks of the Ashuelot River.” (p.14) Two hearth features on the west bank adjacent to the dam produced radiocarbon dates: Feature 1 - 3440 +/- 80 B.P. (Beta-168971) & feature 2 – 3590 +/- 100 B.P. (Beta-182378). Goodby et al concluded “the dam was a focus of Native American activity, and has definitively dated this activity to the Late/Terminal Archaic and Contact periods.” (p.18)

#### Source:

Goodby, Robert G. & Tremblay, Sarah & Bouras, Edward

2014 The Swanzey Fish Dam: A Large, Precontact Native American Stone structure in Southwestern New Hampshire. *Northeast Anthropology* no.81-82, (2014), pp.1-22.

**Niche, Titicut Site, Bridgewater, MA**  
Late Archaic Period (3700-6000 B.P.)

The Titicut Site is a complex multi-component Native American archaeological site. Of interest to this compilation is Feature #179. Archeologist Maurice Robbins described it:

“Feature #179 (Map 6) was the most unusual feature found at the site. It first appeared as a stoned-up hearth. The upper members appeared in the yellow soil at a depth of 5 centimeters below the humus layer. The loam layer was 27 centimeters in thickness above the feature. The hearth consisted of a circular ring of rather large oval pebbles. Although cracked by heat most of the pebbles were intact. The ring was complete with no opening as at lower levels of the site; it was nearly round, 90 by 96 cm. in diameter. The contents consisted of dark stained soil, charcoal in small lumps, a few broken stones and a small amount of calcined bone fragments. The floor of the hearth was formed by a single, large flat stone 24 x 28 cm., at a depth of 20 centimeters below the top of the wall. Upon removing the lower stone. a second horizontal stone, slightly smaller in size, appeared. The sand about this second stone was slightly discolored by the charcoal from the hearth. Beneath the second stone the tops of three elongated, flat stones appeared. These, placed edgewise in the ground, formed a sort of box with one open end. A slight trace of red paint at the open end indicated the presence of a ceremonial deposit within. Upon removal, it was noted that the underside of the cover stone had been enscribed with several figures and was covered by a thin smear of graphite. Prominent among the figures was a snake or fish. (fig. 6 #8) Within the box-like structure were a Full Grooved axe, (not illustrated), a Clumsy plummet (Fig. 6 #13), and a scraper-like tool of white quartz, (not illustrated). These artifacts rested upon clean white sand. It was apparent that they had been placed in a position and the red paint, or powdered ochre, poured over them.” (Robbins 1967, 49)

What was described is a boxed niche, a type of structure sometimes found at stone feature sites interpreted as a ceremonial stone landscapes (CSL). It is clear that Titicut Feature #179 was a ceremonial structure. Archaeologist Ed Lenik reviewed Feature #179 for his book *Picture Rocks* (2002). He concluded, “The contents of the box or cist suggest that the feature dated to the Late Archaic period, and the white quartz artifact was an engraving tool that was used in producing the incised figures.” (Lenik 2002, 135)

Sources:

Lenik, Edward J.

2002 *Picture Rocks: American Indian Rock Art in the Northeast Woodlands*. Hanover & London: University Press of New England.

Robbins, Maurice

1967 The Titicut Site. *Massachusetts Archaeological Society Bulletin* v.28 no.3-4 (1967), pp. 33-76/

**Rocky Brook Stone Chamber, Thompson, CT**  
705 +/- 145 years B.P. (C-14) (GX-10300)

This is an oval corbelled “beehive” type chamber with a narrow entrance. It measures 11’ 5” from front to back and 7’ 5” from side to side. It has a maximum interior height of 6’ 8”. James Whittall listed this in his list of C-14 dates published in 1991: “ROCKY BROOK SITE: Thompson, Ct. Charcoal, fire burned pavement, stone chamber.”. NEARA Library has the original copy of Lab results letter for this sample. The sample was listed as “wood charcoal.” The NEARA Library also has a document dated January 12, 1985 by Daniel Lorraine and Richard Lynch which states Whittall conducted excavations at the chamber in October 1982. No details of the excavation were provided.

Source:

Whittall, James Jr.

1991 Radiocarbon Dates Associated with Stonework in New England. *Early Sites Society Bulletin* v.18 no.1 (Oct 1991), pp.63-65.



**Standing Stone, Monolith A Site, near the Calendar I Complex, South Royalton, VT**  
435 +/- 145 years B.P. (C-14) (GX-10519)

This site is known as the Monolith A site and associated with the Calendar I complex of structures. Calendar I and II sites are discussed in detail in Mavor and Dix's book *Manitou* (1989). The site was found in 1976 and mapped in 1982. The site consists of six standing standings of which "monolith A" is one of and a stone cairn. The standing stone designated "monolith A" was excavated under the direction James Whittall Jr. in July 1984. Whittall reported:

"Seven and one-half meter squares were opened and excavated to either glacial till or ledge. The exposed monolith measured 96 cm in height, 66 cm in width and 14 cm in depth. It had been shaped and placed in a quarried niche in the outcrop of ledge, and its flat face was oriented north/south. The soil stratification showed rotting humus, windblown loess, and eroded ledge of Waits River formation. The deepest accumulation of soil was at a depth of 70 cm in cavities of the ledge. At 30 cm, in square NOW1, 112 cm to the west of the monolith, a firepit feature was uncovered. Just north of the firepit, a mass of red ochre (limonite) was found measuring 48 cm in diameter. The soil behind the monolith was of a different composition from the surrounding area. It was a mixed strata C with clay (Munsell 10YR5/4) packed in to brace up the slab. In square NOE1, charcoal was uncovered at 40 cm. In the same square, two quartz cobbles were recovered at 30-35 cm which could possibly be considered hammerstones.

A sample of charcoal from the firepit feature was submitted to Geochron laboratories for analysis and yielded a date of 435+/\_145 C-14 years B.P. (GX-10519). This date correlates with a dated firepit feature 470+/-140 C-14 years B.P. (GX-9782) from square N4E26 recovered at the Calendar I site in 1982 by Early Sites and the Associated Scientists of Woods Hole [Mavor & Dix]." (p.35)

Source:

Whittall, James Jr.

1984 Excavation – "Monolith A" Site South Royalton, Vermont. *Early Sites Research Society Bulletin* v.11 no.1 (Dec. 1984), pp.34-37.

**Burnt Stone Pavement, Calendar I Complex, South Royalton, VT**  
470 +/- 150 years B.P. (C-14) (GX-9782)

Unfortunately not much is known about this C-14 date. James Whittall included it in his 1991 list of C-14 dates associated with stone structures, "CALENDER I: So. Royalton, Vt. – hearth, burnt pavement. 470 +/- 150 B.P. (GX9782) (WHAS\*JM-BD)" The coding indicates the excavation was done by James Mavor and Byron Dix, Woods Hole Associated Scientists. There is an apparent reference to this in Mavor and Dix's book *Manitou* (1989): "This extensive pavement may well cover a much larger area and is similar in depth and construction to the pavement nearer the chamber which was excavated by James Whittall in 1984 and dated by charcoal analysis to A.D. 1300 to 1600." (p.321) Mavor and Dix do not provide a citation for this information.

Sources:

Mavor, James and Dix, Byron

1989 *Manitou: The Sacred Landscape of New England's Native Civilization*. Rochester, VT: Inner Traditions International.

Whittall, James Jr.

1991 Radiocarbon Dates Associated with Stonework in New England. *Early Sites Society Bulletin* v.18 no.1 (Oct 1991), pp.63-65.

**Standing Stones, Site B3, Calendar I Complex, South Royalton, VT**  
580 +/-130 years B.P. (C-14) (GX-8629)<sup>1</sup>

The Calendar I complex has a stone chamber, standing stones, astronomical alignments and other stone structure features.

Mavor and Dix reported:

“Site B3, located near the astronomical center in the bowl, consisted, before excavation of two little standing slabs barely a foot high, forming an ell shaped pocket between them. Byron thought that they might have been used to position the feet of an observer for the correct observation of the horizon markers. A person standing with his feet in the niche formed by the two standing stones could observe the summer solstice sunrise at standing stone E1 on the east ridge and the winter solstice sunrise over the notched slab E3 (Figure 12-11).

Upon excavation, we found that it was much more. We cleared and dug sixteen foot square area down to bedrock. The two little stones turned out to be standing stones nearly four feet high, made from weathered mica-schist with decorative quartz intrusions. They were wedge into a deep recess in the bedrock, shown in Figure 12-12. Nearby, there were three large flat slabs lying in contact with the bedrock arranged in a north-south row with holes and recesses carved into them. Wooden staffs placed in the holes could have served as nearby approximate markers for the solar sightline to the ridgetop. In the north-east corner of the excavation, we found a stone-line pit filled with charcoal sealed from the atmosphere by over a foot of soil. A carbon 14 analysis showed the charcoal to have been created between A.D. 1240 and 1500.” (p.317-319)

Sources:

Mavor, James and Dix, Byron

1989 *Manitou: The Sacred Landscape of New England's Native Civilization*. Rochester, VT: Inner Traditions International.

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<sup>1</sup> See Mavor & Dix, 1989, chapter 12, footnote #10.

**Stone Pile, Reading, VT**

915 +/- 160 years B.P. (C-14) (GX14140)

James Whittall included it in his 1991 list of C-14 dates associated with stone structures, "SOLITARY STONE PILE: Reading, VT Hearth, stone cairn, worked quartz 915 +/- 160 B.P. (GX14140) (AIAR\*KM)"

Coding indicates the excavation was by Ken Moore, American Institute of Archaeological Research.

## Stone Chamber (a/k/a Pottie Chamber), Newton, NH

850 +/- 140 years B.P. (C-14)

\*This date is considered questionable

In 1968 James P. Whittall, Jr. conducted an excavation on this chamber. The chamber was dug into the side of a natural hill. He listed the following measurements 14' 6" long, 6' wide at floor level, ceiling width 2', height 5' 10". The chamber has a roof of six stone slabs supported on corbelled walls. He dug two test pits, one to the west of the chamber (i.e. directly behind the rear of the chamber) and one on the roof of the chamber. Both test pits yielded charcoal for C-14 dating. The charcoal sample from the roof test pit appears to be the only one submitted for analysis. This sample was found 15 inches below ground level and 2 1/2 inches



Interior of Pottie Chamber

above the capstone and yielded a C-14 date of 850 BP +/- 140 years. The only artifacts recovered were some clay potsherds in association with the charcoal from the test pit to the rear of the chamber, and a stone scraper recovered from soil removed from the entrance in 1967. No soil profile was given in the report. The report also notes that the chamber entrance had been sealed with stones presumably prior to the 1967 soil removal from the entrance. The interior of the chamber was not excavated. (Whittall 1969, 10-11)

In 1973, a team from the Early Sites Research Society opened a new excavation unit on top of the roof open next to the one dug 1968 which recovered C-14 dated charcoal. According to the published excavation reported:

“A square 80 x 80 x 38 centimeters deep was excavated to the roof slab of the chamber. Under the duff the soil was a mix profile of brown gravel till with larger broken stones. At 17 cm. level a horizon of charcoal appeared, along with an occasional sherd of glazed redware. This level continued down through a reddish-brown profile to 22 cm., at which a profile of coarse sand and small gravel – yellow ochre in color – continued downward to 30 cm. This level was completely sterile of all charcoal and artifacts. At 30 cm. some burnt soil was encountered along with a charcoal horizon. At 32 cm below the Duff 3 pieces of glazed redware; a small piece of bone; and some chunks of charcoal were found in close proximity to each other. 6 cm. below this the capstone was uncovered. The level between 32 centimeters and 38 centimeters was sterile of all charcoal and artifacts. The soil profile was a fine yellow dirt.”

The excavators considered the possibility of a rodent burrow or bioturbation as a cause for the glazed redware in the soil profile but reject this idea. They raised the possibility that the charcoal sampled in 1968 was from a re-deposited forest fire not the result of human agency or a fire event that occurred after the structure was built. They concluded “The current excavation [1973]

created more questions concerning the site than answers. It also cast grave doubts on the radiocarbon date of 850 AD as a factor in dating the origin of the chamber.”

The 1973 excavation raised some valid concerns. OSL dating the soil level immediately about the capstone could potentially resolve the questions about the dating of the structure.

Sources:

Whittall, James Jr.

1969 NEARA First to Obtain Pre-Columbian Carbon-14 Dating from an American Megalithic Structure. *NEARA Newsletter* v.4 no.1 (March 1969), pp.10-11.

Early Sites Research Society

1973 Excavation at the Pottie Stone Chamber Newton, N.H. *Early Sites Research Society Bulletin* v.1. no,1 (Sum 1973), pp.1-3.

### **Stone Chamber, Putney, Vermont**

1405 +/- 190 years B.P. (GX-5733)

\*May or may not date the chamber

The stone chamber is located in a man-made (?) earthen mound. The mound has a stone retaining wall along the bottom perimeter edge of the mound that extends about half way around the mound. The retaining wall is on the down slope side of the mound. A tree growing in the retaining wall was cored and the tree ring count indicated it first started growing in 1835. The chamber is sunk completely below ground level into the mound. It has a "D" shape and is approximately 6 x 6.5 meters inside. Access into the chamber is via a triangular shaped roof opening, the roof is formed by stone slabs. An excavation in the interior established the chamber walls were built on bedrock. This excavation recovered pieces of ironware likely from a wood stove reported have been used in the chamber by hunters.

Two 1 x 1 meter excavation units were placed outside of the south wall of the chamber. The soils in the units were disturbed. A lithic hammerstone was found at 24 cm, a broken brick and flecks of charcoal at 33 cm, a utilized flake at 38 cm. At 45 cm "a secondary mixed level was revealed" and extended to 68 cm. At 68 cm "a thin horizon of charcoal and humus, the original ground level was uncovered." This "original ground level" was about half way down the side of the chamber wall. A sample from this humus level was C-14 dated 1405 +/- 190 years B.P. (GX-5733) Whittall cautioned "It is important to realize this carbonate does not necessarily date the construction of the chamber." (p.6) The major question was whether the chamber was constructed by cutting through this old humus layer or whether the humus layer occurred after construction. This question was not resolved by the excavation.

This structure may be a good candidate for future OSL dating of accumulated soils over the top of the roof stones. There is a report that the chamber was sampled for OSL dating in past year.

#### *Source:*

Whittall, James Jr.

1979 Archaeological Survey, Dry Stone Chamber WD16, Windham County, Vermont (Preliminary Report). *Early Sites Research Society Bulletin* v.7 no.1 (May 1979), pp.2-11.



### **U-Shape Enclosures, Barrington, RI**

800 +/- 50 years B.P. (C-14) (Beta-54901)

860 +/- 50 years B.P. (C-14) (Beta-62401)

Only a limited amount of information is available for this site. Ed Ballard states in his 1999 article:

“The site in Barrington, Rhode Island, contained 4 “U”-shaped constructs. They were found 30-50 cm below ground surface, and all of the structures were below juncture. They were constructed with hand size rounded cobbles, and there was a 40 cm pile of similar cobbles located in front of the open end of each “U”, suggesting the “U” and dot, or sod and skull ... Radiocarbon ages of 800 +/- 50 BP (Beta 54901, 1992) and 860 +/- 50 BP (Beta 62401, 1993) (both uncorrected <sup>13</sup>C) indicating the Late Woodland period, were obtained on charcoal from two of the structures (personal communication, D. Andreozzi 1996)” (p.49)

#### Source:

Ballard, Edwin C.

1999 For Want of a Nail: An analysis of the Function of Some Horseshoe or “U”-Shaped Stone Structures. *Bulletin of the Massachusetts Archaeological Society* v.60 no.2 (Fall 1999), pp.38-53.

## **Summary**

This compilation has presented thirty dated stone structures both utilitarian and ceremonial which are associated with indigenous peoples of Northeastern United States. Twenty-one of these structures have dates that can be reliability tied to the structure's date of construction. This compilation showcased a diversity of different types of stone structures from a fish weir to the sophisticated construction needed for stone chambers. It demonstrates that indigenous peoples had the practical stone masonry skills and rich spiritual culture to create these ceremonial features.

We are left to face one inescapable conclusion: Mixed in amongst the European-American settler built stone walls, stone lined cellars, mill dams and so forth are legitimate Native American stone structures as well. A fact attested to by scientific evidence.

## **Equinox “Serpent” Stone Wall, Manitou Hassannash Preserve, Hopkinton, RI**

Waiting for date

\*This structure was sampled by Dr. Feathers as part of a NEARA funded project. OSL results are expected sometime in 2022.

This structure is a straight segment of stone wall (does not connect to any other walls) located just to the west of Brightman cemetery at Manitou Hassannash Preserve. It has an east-west orientation. A triangular shaped stone split using the plug and feather method (post-1820 AD) was placed on top of the west end of the wall segment and is likely a later addition to the wall. The wall segment is located in a former 19<sup>th</sup> century pasture on an extremely rock hill. It is one of 1000+ stone mounds, niches, enclosures and other stone features concentrated on twenty acres of land and interpreted as a Native American ceremonial stone landscape (CSL) by the Narragansett Tribe. See *Land of a Thousand Cairns* (2020, 2<sup>nd</sup> ed.) for more details on the site.