

# **Tree-Ring Dating of the Adams House**

## **Jemez Springs, New Mexico**

*A Report by Thomas W. Swetnam*

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Jemez Mountains Tree-Ring Lab  
Laboratory of Tree-Ring Research, University of Arizona  
April 27, 2026



*A recent photo of the Fenton/Adams/Sweet House.*

## **Summary**

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At the request of Roger Sweet, who is restoring the old Adams House at 18067 NM State Road 4 in Jemez Springs, seven samples were collected in spring 2025 and examined at the Jemez Mountains Tree-Ring Lab for tree-ring dating. The samples comprise two increment cores from juniper window-header timbers in the original portion of the house, one core from a large ponderosa pine vertical support post in the

living room, one core from a smaller ponderosa pine support post above the fireplace mantle, two cores from ponderosa pine vigas in the north-side (northeast) addition, and one cross-section cut from a large Douglas-fir barn timber recovered from the thicket of trees-of-heaven behind the house.

Of the two juniper window-header samples, one (Adams 1) yielded a tentative inner crossdate and an estimated outer (cutting) date in the early 1890s through ring counting; the second (Adams 2) could not be crossdated. All four ponderosa pine samples from the living-room posts and the north-addition vigas crossdate well and yield cutting dates of 1922 or 1923, evidently reflecting a single major episode of structural reinforcement and expansion of the house in the early 1920s. The Douglas-fir barn timber (Barn 1) crossdates confidently, but its outermost surviving ring is dated 1864. Because the timber was milled on three sides and its outside is weathered, the actual cutting date is years to decades later than 1864 and is not recoverable from this sample.

The dating of the original construction is not yet definitive. A reasonable working interpretation, supported by the 1890s juniper date, the surviving historical photographs and newspaper items, and the 1908 land-parcel record, is that the original one-story adobe and stone house was built in the early to mid-1890s, with a northeast addition and reinforcing interior posts added in 1922–1923. A barn behind the house was probably built during the same 1890s episode as the original house (see below).

## **Sampling**

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Sampling was conducted in the spring of 2025, with Roger Sweet assisting. Roger had already identified a series of candidate original timbers exposed during his restoration work, along with a large timber recovered from the ruins of an old barn in the thicket of trees-of-heaven immediately behind the house. Because the original portion of the old Adams House has adobe and stone walls (rather than stud-framed walls), most accessible internal structural members are either vigas in the ceilings of the additions or vertical posts set into the stone masonry. Therefore, sampling focused on the exterior window-header timbers, the two interior vertical support posts in the living room, and the vigas of the northeast addition.

Increment cores were taken using a 3/8-inch-diameter hollow bit and an electric drill. The large Douglas-fir barn timber was cross-sectioned on a bandsaw, and the cut face was then sanded and polished in the lab.



*Fig. 1. Roger Sweet pointing out the two juniper window-header timbers (Adams 1 and Adams 2) in an exterior, south-facing wall. Each was cored for tree-ring analysis.*



*Fig. 2. The large ponderosa pine vertical support post in the living room (Adams 3). The post is set against the north wall and carries part of the upstairs floor load. Its obviously improvised position (notably, it is not structurally integrated with the masonry wall behind it) suggests that it was added during a later remodel; the tree-ring date of 1922 or 1923 confirms this.*



*Fig. 3. The living-room fireplace, showing the smaller vertical ponderosa pine post (Adams 4) rising from the mantle toward the ceiling. The pole is somewhat oddly positioned, again suggesting post-hoc structural reinforcement rather than a feature of the original build.*



*Fig. 4. Increment core hole in one of the ponderosa pine vigas in the northeast addition (Adams 5 or Adams 6). Both vigas yield outer cutting dates of 1922 or 1923, which, like the two interior support posts, suggest the same felling season, implying that the living-room reinforcement and the northeast addition were completed as a single remodeling campaign.*

## Laboratory Methods

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All samples were prepared at the Jemez Mountains Tree-Ring Lab in Jemez Springs. Increment cores were mounted in grooved wooden core holders, and the barn cross-section was mounted on plywood backing. Transverse surfaces were sanded with progressively finer grits, from about 60 to 400, until the individual cells at the earlywood-latewood transition were clearly resolved.

Each sample was examined under a variable-zoom binocular microscope (10–40X). Ring-width patterns were transcribed as skeleton plots and crossdated by visual pattern matching against a composite Jemez Mountains ponderosa pine master chronology. Particular attention was paid to regional signature drought rings from 1902, 1904, 1893, and 1880, which are distinctly narrow in the Jemez master chronology and in most locally milled ponderosa pine. The Douglas-fir barn sample was crossdated against both the Jemez ponderosa pine master chronology and a regional Northern New Mexico master chronology.

Three tree species are represented in the samples: juniper (*Juniperus* sp., probably Rocky Mountain juniper, *Juniperus scopulorum*) in the two window-header timbers; ponderosa pine (*Pinus ponderosa*) in the four interior support and viga timbers; and Douglas-fir (*Pseudotsuga menziesii*) in the barn timber. Juniper from local sources is notoriously difficult to crossdate because of common false rings, locally absent rings, and very narrow ring widths in the outer decades; therefore, the juniper dating reported here is tentative.

## Crossdating and Results

### Sample-by-sample notes

**Barn 1** (cross-section, Douglas-fir). Collected from a thicket of trees-of-heaven behind the house, next to some old concrete steps that are the surviving footprint of a barn. Good crossdating. The outermost ring is 1864. Because this timber was milled on three sides and the outside was weathered, only some of the original sapwood is preserved and none of the bark, so the actual cutting date is well after 1864 — probably years to a couple of decades later. The inner end of the series extends into the early 1800s.

**Adams 1** (core, juniper). Exterior window-header timber. The outer rings are very narrow and not reliably crossdated; however, a tentative crossdate of the inner ~50 rings places the outermost surviving ring, by ring-counting toward the outside, in the early 1890s. Because the outer rings are so narrow and the crossdating is tentative, this

date is treated here as a working hypothesis for the house's original construction rather than as a firm result.

**Adams 2** (core, juniper). Second exterior window-header timber. The ring series consists of very small rings throughout, with probable false rings; no crossdate could be established, and this sample is therefore undated.

**Adams 3** (core, ponderosa pine). A large vertical support post in the living room, against the north wall (Fig. 2). The ring series is fast-growing and complacent, with fewer than 60 rings. It crossdates with the Jemez master chronology and yields an outer cutting date of 1922 or 1923.

**Adams 4** (core, ponderosa pine). Smaller vertical post above the fireplace mantel (Fig. 3). The ring series cross-dates fairly well. Outer date 1922.

**Adams 5 and Adams 6** (cores, ponderosa pine). Vigas in the northeast-side addition. Both samples crossdate in their inner portions; near the outer end, each contains some missing or false rings, and the outer (cutting) dates are therefore obtained by careful ring counting from the last confidently crossdated ring toward the waney edge. The outer dates are probably 1922 or 1923.

## **Interpretation**

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Two distinct dating episodes emerge from the samples.

The first episode is represented by the juniper window-header timber (Adams 1), tentatively dated to the early 1890s, and by the Douglas-fir barn timber (Barn 1), whose outer surviving ring of 1864 is a terminus post quem — the cutting year must be later than 1864 and could easily be in the late 1880s or 1890s. Taken together, these results are consistent with an initial construction episode in the early to mid 1890s, for both the original adobe and stone house and for at least one of the barns to the rear. The juniper date is not yet firm; confirming it will require one or more additional cuttings on original waney-edged timbers, should any come to light during the remaining restoration.

The second episode is represented by four ponderosa pine samples (Adams 3–6), all yielding cutting dates of 1922 or 1923. Two of these samples are vigas in the northeast addition, and two are the vertical interior support posts in the living room. It is striking that both the addition and the interior reinforcement appear to date to the same felling year (or years), strongly implying a single coordinated remodel of the house ca. 1922–1923. This remodel plausibly included opening the upstairs bedroom wall into a single room, as Roger Sweet has observed, which would have transferred additional floor load

onto the north living-room wall and necessitated the two interior posts. A Palace of the Governors archival photograph dated 1921 (not reproduced here, see Sweet files) shows the northwest addition already present but no northeast addition; the 1922–1923 tree-ring dates are fully consistent with that photograph.

The ring patterns of all four ponderosa pine samples match the Jemez Mountains and northern New Mexico ponderosa pine master chronologies, indicating that the 1922–1923 lumber was cut from local trees and milled at a local sawmill, several of which were operating in the Jemez Valley at that time.

## **Historical Background**

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The tree-ring results can be compared with a reasonably well-documented sequence of occupants of this small parcel, which sits on the west side of the highway just below the old U.S. Forest Service ranger station and directly across the Church Canyon arroyo from the Shields family's home at the north end of the village.

### **The Shields family up the road, 1890s–1910s**

Reverend Doctor John Milton Shields was sent to Jemez Pueblo in 1878 as the Presbyterian minister and community physician (see my article on his Civil War service and history in Jemez Springs [here](#)). Shields built his own house in the early 1880s, slightly north of the Adams House and directly opposite the old mission church, on a parcel still recognizable in archival photographs.

The Shields House is visible in the foreground of the NMSU archival photograph shown below (Fig. 5), with two horses and a wagon in front of a picket-fence gate. The later Adams House appears in the distance at right, just west of the north-south low rock wall along the road. The large barn on the other side of the east-west low rock wall, with an east-west roofline, was owned at the time of this photo by A.J. Otero. He had purchased that property, along with extensive orchards extending down the valley, from Rudolph Haberland in 1896. Haberland had earlier bought the property from the Varos (or Baros) family in 1882 (documents in Ancestry.com). Otero and Fenton had a court dispute in 1896 over the use of the old Haberland barn, and after that, in the same year, Fenton built the other barn on his property with a north-south roofline orientation.

The 1882 land transfer deed from the Varos to Haberland includes measurements and landmarks, and it appears that the property to the south extended only to the “mouth of the Arroyo of the Pueblo,” i.e., the wedge-shaped property on which the Fenton/Adams house sits was not included in the Haberland/Otero parcel.



*Fig. 5. NMSU Library archival photograph, probably from the late 1890s to ca. 1910, looking south down San Diego Canyon toward the center of Jemez Springs. The Shields House is the one-story adobe at the lower-right, with two horses and a wagon in front of its picket-fence gate. The two-story Adams House (then most likely the Fenton House) is visible in the distance at center-left, just west of a low rock wall along the road. The large barn to the right (west) of the house has its east-facing roof blown off; a second, larger barn with an east-west roof pitch is visible behind it and was owned by A.J. Otero. The Forest Ranger station was built in about 1928-29, so it is not present in this photo.*



*Fig. 6. Family photograph, ca. 1900, of the Shields House with two of the Shields daughters in front of the picket-fence gate. Helen Shields, standing, later married John Adams and returned*

*to live in the house down the road (the present Adams/Sweet House) in the 1940s. Photograph supplied by Amie Adams Green.*

## **The Fenton years, ca. 1896–1910s**

Rev. Dr. Shields semi-retired in 1894, and during part of that year he served on a “mission” to Tucson, where he built a small chapel for the Presbyterian Board of Missions (Tucson Weekly Citizen, Feb., 1894; Shields’ medical journal records the expenses of that building construction in Tucson, Jan-Mar, 1894). Reverend Elijah M. Fenton replaced him that year as the regular Presbyterian minister at Jemez Pueblo and at the Jemez Springs church. Documents held in the Jemez Springs Presbyterian Church (I have scanned copies) confirm that the Fentons moved to the Jemez and began living in Jemez Springs in 1894.

Three items in the Albuquerque Journal from 1896 also bear on the Fentons’ living in Jemez Springs. A February 5, 1896, news item from Jemez Hot Springs describes Reverend Fenton at work “with a pick and shovel preparatory to a lawn,” a striking detail: the level ground in front of the Fenton/Adams house is exactly the sort of place where a lawn would be laid out, and there is no corresponding flat ground at the Fenton homestead up on the Rio Cebolla (today’s Fenton Lake). A March 5, 1896, item further describes the Presbyterian work in Jemez Springs and at the Sulphurs. An August 7, 1896, item explicitly records Fenton building a barn “in this city” (i.e., Jemez Hot Springs); this barn is almost certainly one of the barns to the rear of the present Adams House, and it is consistent with the 1864 outer ring of Douglas-fir barn timber Barn 1 recovered from that site, given that the cutting year must be later than 1864.

A 1906 hand-drawn parcel map of Jemez Springs (part of the San Diego land grant survey) records the parcel that now contains the Adams House under the name “Jessie Fenton” (see Fig A1 in the Appendix). Jessie was Rev. Fenton’s wife. One plausible explanation for the parcel being recorded in her name, rather than his or both their names, is that Rev. Fenton was, at about the same time, actively homesteading the Rio Cebolla property on public lands (the place now called Fenton Lake). Under the Homestead Act, he may not have wished to list a second home property in his own name.

Given the history described above, I conclude the following likely sequence: 1) Haberland bought the property to the south from the Varos in 1882 and planted or maintained a large orchard there. 2) The Fentons arrived in 1894 and bought the parcel just to the north of Haberland’s land on the southern end of what was J.W. Miller’s land, i.e., the corner piece below the arroyo at the road and west to the “mouth” of the arroyo,

where it goes into the Jemez River. Alternatively, the Fentons might have bought that piece from Rev. J.M. Shields. They were all close Presbyterian friends with family roots in Pennsylvania. The Shields had probably bought their parcel north of the arroyo from J.W. Miller sometime in the 1880s (or from the Varos). They may also have acquired that wedge-shaped piece below the arroyo, or J.W. Miller still held it until the Fentons bought it from him. 3) A.J. Otero bought the Haberland property in 1896.

### **The Adams years, 1946–1965**

Family tradition records that John Amos and Helen Belle Adams purchased the house around 1946 and used it as their retirement home. Helen was the daughter of the Reverend Dr. John Milton Shields, so her move into this house across the arroyo from her childhood home is a notable continuity in the neighborhood. A family snapshot of the interior (Fig. 9) shows John and Helen Adams seated in front of the stone fireplace; the smaller vertical ponderosa pine post (Adams 4), whose tree-ring date is 1922, is already in place above the mantle in the photograph, confirming that the post was an existing feature when the Adams family acquired the house and was not installed by them.



*Fig.7. Composite of two Adams family photos showing Helen and John seated in front of the fireplace sometime in the 1940s or 50s, with the vertical post above the mantel visible.*

After the elder Adams generation had passed on, their children and grandchildren used the house for weekend and summer visits in the 1960s, living in Albuquerque or elsewhere. In the summer of 1965, the Adams family traded the house to the Servants of the Paraclete (the Catholic religious order then based at Via Coeli, at the north end of

Jemez Springs) in exchange for another parcel and house north of the Soda Dam. Roger Sweet, the current owner, eventually purchased the house from the Servants of the Paraclete and is now restoring it. (However, note the Momaday mystery, described below.)

### **The barn behind the house**

Photographs taken by family members in the mid-twentieth century show a substantial adobe-walled barn with a sheet-metal roof immediately behind the Adams House (Fig. 10). This was undoubtedly the barn that Rev. E.M. Fenton built after his dispute with A.J. Otero in 1896. According to Paul Adams, Jr., the barn was demolished shortly after the Adams family's exchange with the Servants of the Paraclete: the roof was first removed and the adobe walls were then smashed inward. The large Douglas-fir timber that we recovered from that footprint was almost certainly an original barn timber. The outermost surviving rings are in the early to mid-1800s, so the timber was old enough to be consistent with a late-1890s construction date (i.e., the Fenton barn episode of 1896, recorded in a newspaper account), but the dating cannot be pinned any more tightly than "later than 1864" from the sample in hand.



*Fig. 9. Photograph of the barn immediately behind the Adams House, probably mid-twentieth century, supplied by Paul Adams, Jr. The barn was demolished soon after they traded the property; the Douglas-fir timber recovered from its footprint (Barn 1) was cross-sectioned and crossdated, but the surviving outer ring of 1864 is weathered and decidedly older than the true cutting date.*



*Fig. 10. The Adams House in a ca. 1950s family photograph. The steep gable, the two second-story windows, and the shed-roofed porch are still present today. By the time of this photograph, the 1922–1923 reinforcements and northeast addition had long been in place.*

### **A Momaday mystery**

A curiosity in the Sandoval County parcel records for this property is that an earlier chain of apparent former owners (grantees) includes the Mathias family, with a grantor listed as “Scott Momaday” (see Fig A2 in the Appendix). There is no obvious explanation for this entry beyond the most straightforward one: at some point, N. Scott Momaday owned the Adams House and then sold it, most likely between the Adams family's trade to the Servants of the Paraclete in the late 1960s and Roger Sweet's purchase from the Servants of the Paraclete.

This possibility is made more interesting by the role of “the Benevides house” in Momaday's 1968 novel *House Made of Dawn*, which won the 1969 Pulitzer Prize for Fiction. In a 2018 preface to the novel, Momaday identified the Benevides house with his parents' house in Jemez Springs — the large stone-and-adobe house across from Casa Blanca in Jemez Springs, now known as the Momaday–Daub/Short House and tree-ring dated in a separate 2026 report (Swetnam, 2026).

In the novel itself, however, the character Angela St. John describes the house she has taken as “at Los Ojos — the large white house below the forestry station —” and her interlocutor supplies the name “The Benevides house?” This description does not fit the Momaday–Daub/Short house, which is about half a mile south of the old Jemez Ranger Station, with several other houses in between. It is, however, a very close fit for the Fenton/Adams/Sweet House, which sits directly “below the forestry station”, right across State Road 4.

If Momaday briefly owned the Adams House around the time he was writing *House Made of Dawn* (the late 1960s), the Benevides house as rendered in the novel may be a composite of the two houses he knew best in Jemez Springs: his parents' house across from Casa Blanca and the house across the road from the old Forest Service ranger station. This may also be the case because the Adams family traded the house for another up the valley in 1965. Perhaps Momaday owned it briefly after that time and then sold it back to the Servants of the Paraclete (see Fig A2 in the Appendix).

This is speculation at present. A more thorough search of the Sandoval County deed records for this parcel (R191009) should clarify whether N. Scott Momaday was a recorded grantor and, if so, the dates of his ownership. Regardless of the outcome, the possibility is a pleasant reminder that a small adobe and stone house in Jemez Springs can quietly sit at the intersection of multiple important strands of the valley's literary, religious, and medical history.



*Fig. 11. Detail of the ponderosa pine post (Adams 4) extending from the fireplace mantle toward the ceiling. The outer (cutting) date of this sample is 1922, contemporary with the ponderosa pine vigas in the northeast addition.*

## **Acknowledgments**

I thank Roger Sweet for the invitation to sample the Adams House and for his considerable help in returning the samples. Amie Adams Green, Paul Adams, Jr., and other members of the Adams and Shields families provided photographs, family recollections, and the priceless Shields building ledger, medical account book, and San Diego land grant grazing-fee ledger, which are to be deposited with the Sandoval County Historical Society. Newspaper clippings were accessed via Newspapers.com from the Albuquerque Journal. The Jemez Mountains and northern New Mexico master ring-width chronologies used for crossdating have been developed over many decades of collaborative work at the Laboratory of Tree-Ring Research, University of Arizona. Claude (Opus 4.7) was used to compile and draft this report from detailed instructions, an outline, and the underlying email, photograph, and document files. I checked the facts and edited the final report myself.

## Appendix



Fig A1. The above is a clip from the hand-drawn 1906 map of land parcels, which was in the John A. Adams papers. The map was titled: "Inholdings Cañon de San Diego Grant, Deed Issues by Jemez Land Co 1906 To (illegible)". Unfortunately, the original map has not been located, and the available copy is low resolution. The full map can be viewed on the Jemez Valley History website at this [link](#). This map was undoubtedly prepared around the time the San Diego land grant was partitioned and sold by court order. It was bought by unscrupulous lawyers and land speculators, who eventually sold the community portion of the land grant to the New Mexico Timber Company at a huge profit. At the time of partition, the private lands along the river were retained (and deeded) to the original land-grant families and others who had previously purchased those parcels along the Jemez River (including the Oteros, Fentons, Shields, and Millers).

John W. Miller and his family had a house just north of the Shields property, and he also owned the land where Mission de San Jose was located, labeled "Ruins" on the map. The land with the mission ruins was later donated (or sold?) to the State of New Mexico. The small parcel on which the Adams house sits is labeled "Jessie Fenton 2.??" [acres, but the decimal numbers are illegible], clearly indicating that the Fenton family owned this property and lived in the house. The Oteros' property, later owned/occupied by the Handmaidens of the Precious Blood nuns, is visible to the south. It is possible that either the Shields or the Oteros sold the small parcel (and house?) to the Fentons, who arrived around 1894.

This page can be printed using your internet browser or by CTL + P  
 Account: R191009

Location	Owner Information	Assessment History																		
Parcel Number 1-011-105-529-239	Owner Name SWEET, ROGER AND LINDA VOZAR	Actual Value (2026) \$132,130																		
Tax Area 406WH_R - 406WH_R	Owner Address PO BOX 272	Primary Taxable \$44,043																		
Situs Address 18067 HWY 4	Legal Summary Legal: S: 24 T: 18N R: 2E S: 23 T: JEMEZ SPRINGS, NM 87025-0272	Tax Area: 406WH_R Mill Levy: 24.630																		
18N R: 2E Subd: SECT-TWNShP-RNGE Tract: K- UNITED STATES OF AMERICA 1B																				
		<table border="1"> <thead> <tr> <th>Type</th> <th>Actual</th> <th>Assessed</th> <th>Acres</th> <th>SQFT</th> <th>Units</th> </tr> </thead> <tbody> <tr> <td>Residential Land</td> <td>\$45,300</td> <td>\$15,100</td> <td>0.500</td> <td>21780.000</td> <td>1.000</td> </tr> <tr> <td>Residential Improvement</td> <td>\$86,830</td> <td>\$28,943</td> <td></td> <td>2015.000</td> <td></td> </tr> </tbody> </table>	Type	Actual	Assessed	Acres	SQFT	Units	Residential Land	\$45,300	\$15,100	0.500	21780.000	1.000	Residential Improvement	\$86,830	\$28,943		2015.000	
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Residential Land	\$45,300	\$15,100	0.500	21780.000	1.000															
Residential Improvement	\$86,830	\$28,943		2015.000																
Transfers																				
Sale Date 12/04/2024	Doc Description SPECIAL WARRANTY DEED PLAT PLAT PLAT MISCELLANEOUS MAPS																			

This page can be printed using your internet browser or by CTL + P  
 Account: R191009 MISCELLANEOUS

Document Date 06/01/1998	Sale Date
Reception Number 1998013173	Book 401
	Page 37612
Grantor	Grantee
SCOTT MOMADAY	GLADYS MARILYN VAN
	FIRST NATIONAL BANK IN
	DONALD M MATHIAS
	FIRST SECURITY BANK IN
	ERNEST ALBERT POLANSKY
	IRENE POLANSKY
	THE PARACLETE FOUNDATION
	PARACLETE-GENERALATE
	MARIE M MATHIAS
	EVELYN LOUISE LATRAM
Remarks	
Account Number R191009	Parcel Number 1011105529239

Fig A2. The images above are screenshots from the Sandoval County Parcel viewer, showing the current ownership by the Sweets (top) and a mysterious entry under “MISCELLANEOUS” listing Scott Momaday as “Grantor” (seller?) and a list of “Grantee” (buyers?), including the Mathias’s, who were longtime Jemez Springs residents, and the Servants of the Paracletes “Foundation”. Note that this document is dated 1998, and at the bottom is the same Account and parcel number as the current listing.